



CHILDREN'S FEARS



Child Development Monographs, No. 20

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Child Development Monographs

Monograph No. 20



LOIS HAYDEN MEEK, EDITOR

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CHILDREN'S FEARS



By
ARTHUR T. JERSILD
AND
FRANCES B. HOLMES

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EDITOR'S PREFACE

THE emotional behavior of children has received much consideration during recent years from clinical psychologists and psychiatrists. However, the practical work of such clinicians and the underlying theoretical assumptions have had insufficient foundation in scientific investigations. The psychological experimentations of John B. Watson two decades ago have until quite recently gone unchallenged by one group while the assumptions of such men as Freud, Jung and Adler have been rather widely accepted by another. Because of the practical significance as well as the theoretical implications, studies into the emotional life of children have great importance.

This monograph presents a series of studies made over a period of three years at the Child Development Institute of Teachers College, Columbia University. The general purpose of the studies has been to investigate the types of fears that are most prevalent at various ages and to analyze this material for indications of developmental trends and causal factors. A variety of methods have been used in order to bring to light as much material as possible from several sources: direct observations of children by parents and other adults; interviews with parents and teachers; interviews with children concerning their own fears; questionnaires to adults concerning childhood and present fears; observations of children in controlled, experimental situations; case studies.

These several approaches to the subject have given the authors a vast amount of material for analysis and interpretation. The investigation has become a general survey of the field which gives a basis for evaluation of much of our previous knowledge and opens up many important areas for more intensive study.

The experimental study of the fears of young children as reported in Part III was undertaken by Dr. Frances Holmes as a

doctoral dissertation. It was planned as an essential part of the larger study. One of the significant features of the experiment was that the laboratory situations were set up to duplicate as nearly as possible actual situations which had been observed to produce fear in children of this age. The problem was not to try to frighten children but rather to observe the responses of a group of children to situations that sometimes brought fear from some children. Dr. Holmes showed unusual skill in handling an experiment which might have had some emotional hazards for young children. It is possible that her ability with children brought a minimum rather than a maximum display of fear.

In Part IV of the monograph Dr. Jersild has made a penetrating analysis of the fears of young children, bringing together our present information, critically evaluating methods of guidance, and indicating areas that need further study. He points out the limitations of the observational method for the study of the non-overt fears of older children which take the form of anxieties, phobias, and the like.

He further indicates the difficulty of detecting what might be called "mild fears" such as "feelings of doubt and insecurity, lack of confidence, vacillation in making decisions, and countless reactions in which the individual withdraws or retreats or hesitates in the face of an issue."

This study, in contributing toward a better understanding of the fears overtly exhibited by children in daily life, also provides a basis for the investigation of those more subtle aspects of fears in childhood which play such an important rôle in the personality development of children.

LOIS HAYDEN MEEK, *Director*
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THE authors owe their greatest debt to the many parents who kept daily records of their children's fears, to other parents, teachers, and nurses who kept occasional records, to children who reported their own fears in private interviews, to adults who reported the fears they could recall from childhood, and to nursery school teachers who provided opportunities for the study of the fears of children of preschool age. Without the generous coöperation of these individuals, the study could not have been made. The authors are grateful to those whose aid was especially helpful during the course of the study: to Professor Lois Hayden Meek for valuable aid and counsel; to Professor Meek and Miss Frances McClelland for providing access to a number of the children included in the study; to Professor Joseph Holmes, Dr. Charles Manzer, Dr. Frances V. Markey, and Dr. Howard Langford for providing access to a number of the adults who submitted accounts of fears recalled from childhood; to Mrs. Joan Pearson for records of methods of dealing with children's fears; to Mrs. Hajnalka Wiener for valuable records of the fears of early infancy; to Miss Gladys Rosowsky and to Miss Edith Yelenfy for help in compiling the data and in proof-reading the manuscript.

A. T. J.

F. B. H.

CONTENTS

PART I—CHILDREN'S FEARS OBSERVED IN DAILY LIFE BY PARENTS AND OTHER ADULTS

Arthur T. Jersild and Frances B. Holmes

CHAPTER	PAGE
INTRODUCTION.	3
Studies of the nature and causes of fear.	4
I. PARENTS' RECORDS OF CHILDREN'S FEARS	11
Validity of the parents' reports	12
Duration of the records.	13
Other occasional records submitted by adults	14
II. TREATMENT OF THE DATA	16
Description of categories used in classifying fears.	16
Comments on categories described in Figure 1	20
Reliability of the classification of fears	32
III. AGE DIFFERENCES IN FEAR.	34
Average number of fears reported per child	35
Methods of portraying the results	36
IV. SEX DIFFERENCES	59
V. RESEMBLANCES BETWEEN CHILDREN OF THE SAME FAMILY	64
VI. CHILDREN'S REACTIONS IN FEAR SITUATIONS.	69
VII. EARLY FEARS	75
Case study of a child who was observed from the time of birth	75
Early fears as described by parents who were interviewed	77
Intense and persistent fears	79
VIII. DIFFICULTIES IN THE PREDICTION OF FEAR	81
IX. MISCELLANEOUS FEARS.	85
Fear of strange animals.	85
Unfamiliar variations connected with familiar objects	86
Fear of bodies of water	86
Fears relating to the safety of others	88

CHAPTER	PAGE
Physical effects of fear	89
The effect of the child's physical condition on susceptibility to fear	90
X. METHODS OF DEALING WITH FEAR	92
Reactions of children	92
Methods used by parents in dealing with fear	95
Fear as related to skill	100
Overcoming children's fears in a strange situation	101
Recapitulation	103

PART II—FEARS REPORTED BY CHILDREN THEMSELVES AND
FEARS RECALLED FROM CHILDHOOD BY ADULTS

Arthur T. Jersild and Frances B. Holmes

I. FEARS RECALLED BY ADULTS	107
Methods of tabulating	109
Categories used in classifying recalled fears	110
"Earliest fears"	118
Fears described as "most intense"	124
Persisting fears	124
Comparisons between men and women	126
Causes of fear as recalled by adults	126
II. EFFECTS OF FEAR AND METHODS OF OVERCOMING	133
Obsessive fears	136
Methods of coping with and overcoming fear	139
III. CHILDREN'S FEARS AS REPORTED BY THEMSELVES	149
IV. COMPARISONS OF FEARS REPORTED BY ADULT OBSERVERS OF PRE- SCHOOL CHILDREN, BY CHILDREN AGED 5 TO 12 YEARS, AND BY ADULTS WHO DESCRIBED FEARS REMEMBERED FROM CHILDHOOD	158

PART III—AN EXPERIMENTAL STUDY OF THE FEARS OF YOUNG
CHILDREN

Frances B. Holmes

I. INTRODUCTION	167
Previous studies of children's fears	168
II. PROCEDURE AND DESCRIPTION OF EXPERIMENTAL FEAR SITUATIONS	177
Situation I. Being left alone	179
Situation II. Falling boards	179
Situation III. Dark room	180

CONTENTS

xi

CHAPTER

PAGE

Situation IV. Strange person	181
Situation V. High boards	182
Situation VI. Loud sound	184
Situation VII. Snake	185
Situation VIII. Large dog	186
The Problem	187
III. DESCRIPTION OF SUBJECTS AND RECORDING TECHNIQUE	188
Subjects	188
Method of recording	191
Method of scoring	199
IV. THE RELIABILITY OF THE FINDINGS	206
Reliability of the observer and the method of recording	206
Reliability of the method of scoring	209
Reliability of the data	210
V. THE DISTRIBUTION OF CHILDREN'S FEARS	218
The definition of fear used in this study	218
Relative effectiveness of the various fear situations in arousing a fear response	218
Distribution of group with regard to number of situations in which fear was shown	222
Distribution of group with regard to fear scores	223
VI. AGE DIFFERENCES OCCURRING IN THE EXPERIMENTAL FEAR SITUATIONS	224
VII. INTELLIGENCE AND FEAR	233
VIII. SEX DIFFERENCES OCCURRING IN THE EXPERIMENTAL FEAR SITUATIONS	237
IX. FEAR AND SOCIO-ECONOMIC STATUS	243
X. THE RELATIONSHIP BETWEEN THE FEAR SHOWN BY THE SUB- JECTS IN THE EXPERIMENTAL FEAR SITUATIONS AND DATA CONCERNING THEIR FEARS OBTAINED FROM OTHER SOURCES	247
The fear rating scale	247
Parents' check list of fears	250
Difficult births and fear behavior	254
XI. THE RESULTS OBTAINED BY VARIATIONS IN FOUR EXPERIMENTAL FEAR SITUATIONS	257
XII. AN ANALYSIS OF THE BEHAVIOR EXHIBITED BY THE CHILDREN IN RESPONSE TO THE EXPERIMENTAL FEAR SITUATIONS . . .	260

CHAPTER	PAGE
XIII. AN ANALYSIS OF CASES OF EXTREME INDIVIDUAL DIFFERENCES IN FEAR BEHAVIOR	273
XIV. SUMMARY AND CONCLUSIONS	285
Method and procedure	285
Subjects	286
Method of recording and scoring	286
The reliability of the findings	287
The definition of fear used in this study	289
The relative effectiveness of the various fear situations	289
Individual differences in frequency of fear responses	289
Age differences in fear behavior	290
Intelligence and fear	290
Sex differences in fear behavior	291
Fear and socio-economic status	292
The fear rating scale	293
Parents' check list of fears	293
Results obtained by variations in four experimental fear situations	294
An analysis of the behavior exhibited by the children in response to the various fear situations	295
Cases of extreme individual differences in response to the experi- mental fear situations	295
PART IV—THE NATURE AND PREVENTION OF CHILDHOOD FEARS	
<i>Arthur T. Jersild</i>	
I. GENERAL SUMMARY OF FINDINGS	299
Treatment of the data	300
Results	301
Comparisons between findings	320
II. THE ORIGIN, UTILITY, AND PREVENTION OF FEAR	323
Original causes of fear	325
The utility of fear	328
Factors in the prevention and overcoming of fear	330
Methods that may be used by others to aid the child	334
APPENDIX	351
Form used by parents in recording fears	351
Form used in reporting occasional fears	352
BIBLIOGRAPHY	354

TABLES, FIGURES, AND CHARTS

PART I

TABLE	PAGE
I. Frequency and Relative Frequency of Fear	40
II. Frequency of Fear According to Yearly Age Level	44
III. Frequency of Fear at Yearly Age Levels, Based on Tally of <i>one only</i> for One or Several Fears of the Same Class	46
IV. Percentage of Children at Each Yearly Age Level Exhibiting Fears in Response to Various Situations	50
V. Relative Frequency of Fears at Bi-yearly Age Levels	52
VI. Comparisons between Boys and Girls with Respect to Relative Fre- quency of Fear in Response to Various Situations	60
VII. Frequency of Various Forms of Behavior Exhibited by Children When Described as Being Afraid	70

FIGURE

I. Categories Used in Classifying and Tabulating Children's Fears . . .	21
A. Relative Frequency of Fear in Response to Various Situations at Bi- yearly Age Levels, Based upon a Tally of All Instances of Fear . . .	54
B. Relative Frequency of Various Fear Situations at Bi-yearly Age Levels Based upon Frequencies Obtained When Only One Tally Was Allowed per Child for One or Several Fears of the Same Class	55
C. Per Cent of Children at Bi-yearly Age Levels Showing One or More Fears in Response to Various Situations	56

PART II

TABLE	PAGE
I. Frequency of Various Fears Recalled from Childhood by Adults . . .	112
II. Age Ranges at Which Various Fears First Occurred as Reported by Adults	123
III. Effects of Childhood Fears as Reported by Adults	134
IV. Methods of Coping with Childhood Fears as Described by Adults . . .	142
V. Fears Reported in Private Interviews by 398 Children Aged 5 to 12 Years	152
VI. Comparisons between Findings in the Data (1) Reported by Adults Who Observed and Recorded Children's Fears, (2) Obtained Through In- terviews with 398 Children Who Described Their Own Fears, (3) Sub- mitted by Adults Who Reported Fears Recalled from Childhood . .	160

PART III

TABLE	PAGE
I. Distribution of 105 Subjects in Private Nursery and Day Nursery School Groups According to Age and Sex	188
II. Frequency and Percentage of Agreements between Two Pairs of Observers as to the Four Categories of Behavior	207
III. Frequency and Percentage of Agreements between Two Pairs of Observers as to the Various Items of Behavior	208
IV. Coefficients of Contingency between the Fear Scores Obtained on the First and Second Presentation of Seven Experimental Fear Situations	217
V. Number and Percentage of All Children Who Showed Fear in Response to the Various Experimental Fear Situations	219
VI. Number and Percentage of All Children Who Showed Fear in Response to the Various Experimental Fear Situations When Certain Situations Were Combined	220
VII. Comparison between Parents' Records and Experimental Fear Situations with Regard to Relative Frequency of Children Showing Fear in Various Fear Situations	221
VIII. Number and Percentage of Children at Yearly Age Levels Who Showed Fear in Response to the Various Experimental Fear Situations	225
IX. Number and Percentage of Children at Half-Yearly Age Levels Who Showed Fear in Response to the Various Experimental Fear Situations	225
X. Number and Percentage of Children at Yearly Age Levels Who Showed Some Slight Degree of Fear in Response to the Various Experimental Fear Situations	229
XI. Number and Percentage of Children at Yearly Age Levels Who Showed Any Signs of Fear in Response to the Various Experimental Fear Situations	229
XII. Rank Correlations between Fear Score on Six Situations and Intelligence, When the Subjects Are Grouped in Yearly Age Levels	234
XIII. Rank Correlations between Fear Score on Eight Situations and Intelligence, Including Only the Subjects in the First Two Yearly Age Levels	235
XIV. Number and Percentage of Boys and Number and Percentage of Girls Who Showed Fear in Response to the Various Experimental Fear Situations	237
XV. Number and Percentage of Boys and Number and Percentage of Girls at Yearly Age Levels Who Showed Fear in Response to the Various Experimental Fear Situations	238
XVI. Frequency and Relative Frequency of Children in Two Different Socio-Economic Groups Who Showed Fear in Response to the Various Experimental Fear Situations	245

TABLES, FIGURES, AND CHARTS

xv

TABLE	PAGE
XVII. Difference and Reliability of the Difference between Average Fear Scores on Six Situations of Boys and Girls in Two Different Socio-Economic Groups	245
XVIII. Rank Correlations Obtained between Raters When the Teachers of Four Nursery School Groups Rated the Children as to Fearfulness	249
XIX. Relative Frequency of Children at Yearly Age Levels Whose Behavior Was Included in the Various Categories in Each Experimental Fear Situation	261
XX. Number and Percentage of Children Who Responded to the Various Experimental Fear Situations with Language, Grouped at Yearly Age Levels and Classified as to Whether or Not Fear Occurred	265
FIGURE	
1. Percentage of Children at Yearly Age Levels Who Showed Fear in Response to the Various Experimental Fear Situations	230
2. Percentage of Children at Yearly Age Levels Showing One or More Fears in Each of Various Situations, Based on Data Obtained from Parents Who Kept Records for Periods of 21 Days	230
CHART	
Forms Used in Recording Data	193
Sample Record	199
Fear Rating Scale	248
Check List of Fears	251

Part I

CHILDREN'S FEARS OBSERVED IN DAILY LIFE BY PARENTS AND OTHER ADULTS

Arthur T. Jersild
and
Frances B. Holmes

INTRODUCTION

THE aim in this investigation was to study the nature of children's fears during infancy and later years; to study the effects of fear, the duration of childhood fears, the factors which contribute to the development as well as to the prevention or overcoming of fears, and the degree to which childhood fears persist into adult life.

The data represent a variety of approaches to the study of fear, including observations of children by adults, interviews with children, interviews with parents and teachers, case studies, the use of questionnaires, check-lists, and ratings, and the study of children under controlled experimental conditions.

The main findings of the study are based upon the following materials:

1. Records kept by parents (on forms provided for the purpose) for periods of twenty-one days at a time, of the fears displayed by children when at home or in the care of their elders. (The data include 153 such 21-day records, representing 136 children, 16 of whom were observed for twenty-one days on two or more different occasions, with intervals ranging from six months to a year between the separate 21-day periods.
2. Records of fear incidents observed by an additional group of 52 parents, teachers, and nurses who had children in their care and who described, on forms prepared for that purpose, evidences of fear that had come prominently to their attention, without, however, aiming to make systematic observations over a given period of days.
3. Interviews with 31 parents concerning their children's fears, including questioning as to fears that were first observed, fears that persisted over relatively long periods of time, apparent causes of fear, and methods used in overcoming or preventing fear. Parents were also asked to report their own fears.

4. Written anonymous reports by 303 adults, in response to a number of written questions, concerning fears remembered by the adult from his own childhood, including questions as to earliest fears remembered, fears that were most intense, fears that were overcome, fears that persisted into adult years, the effect of fear on behavior during childhood, and methods by which fears were overcome.

5. The findings in the above division of the study are compared with a re-analysis of the data of an earlier study by the senior author and his associates in which 400 children aged 5 to 12 years were asked in private interviews to describe their fears.*

6. A study of the fears of preschool children under experimental conditions (conducted as an independent study by the junior author and published as Part III of the present monograph), designed to give information concerning age differences and individual differences within each age in response to stimuli which have been found to produce fear in some children. Among the situations included in the experiment were animals (a dog, a snake), a high place, an insecure platform, a loud noise, an unfamiliar and strangely dressed person, a dark room, being left alone. The subjects observed in the experiment included 105 children, aged 24 to 72 months; varying numbers of children were exposed to these situations a second time with similar or intensified repetitions of the original stimuli.

The experimental study was supplemented by nursery school teachers' ratings of a number of the children who participated, and by information gained from interviews with parents.

Each of the above procedures will be described in more detail in appropriate sections of this report.

STUDIES OF THE NATURE AND CAUSES OF FEAR

"Original" Fear Stimuli. In the scientific study of fear, much attention has been given to the question of what are the original, unlearned fear stimuli. John B. Watson's writings on this sub-

* Jersild, A. T., Markey, F. V., and Jersild, C. L. *Children's Fears, Dreams, Wishes, Daydreams, Likes, Dislikes, Pleasant and Unpleasant Memories*. Child Development Monographs, No. 12. Bureau of Publications, Teachers College, Columbia University, 1933.

ject have received wide attention. In contrast to the notion that there is a large range of events that provoke instinctive fears—including such events as darkness, animals, the “uncanny,” high places, water, slimy things, and death—Watson proposed a simplified account of original fears. In one of his earlier writings [40]* he reports that the “principal” situations that call out fear responses “seem to be” (1) sudden removal of support; (2) loud sounds; (3) a sudden push or a slight shake, when an infant is just falling asleep or is just ready to waken; and (4) a sudden pulling upon the blanket upon which he is lying may occasionally produce fear responses. He then states that (3) and (4) may be looked upon as belonging under (1). In a later writing, the matter is stated more unequivocally in the words, “. . . there are just two things which will call out a fear response, namely, a loud sound, and loss of support.” [41] Again, in a later writing, the statement is made that laboratory work shows that the child from birth will show fear whenever a sudden loud noise is made near his head or whenever he is thrown off his balance. To this statement is added: “No other fears are natural, all other fears are built in.” [42] He then describes how other specific fears may be established through the process of conditioning.

The claim that fears can all be traced to two “natural” conditions, loud sounds and loss of support, has been widely accepted. The simplicity of the explanation has no doubt contributed to its appeal. A further element of strength in the theory is that it is difficult to disprove. Parents and research workers alike often observe fears that cannot, to the best of their knowledge, be identified as responses conditioned upon loud sounds or loss of support. But against these observations the telling claim can always be made that such conditioning may have taken place without their knowledge.

The findings which cast doubt upon this simplified account of fears come from several lines of study. Studies by other investigators of the effect of noises and loss of support in early infancy

*Throughout this study numbers in brackets refer to references in the bibliography, pp. 354-56.

indicate either that these stimuli are not universally effective or that they must be unusually intense in the case of some children in order to produce fear. In a study of twenty-four children in the first month of life, Irwin [18] subjected each to the treatment of being raised, dropped through space, and caught again in the experimenter's arms after the infant had fallen a distance of two feet. In only a small percentage of the trials did the infants show outward signs of fear. In a study of Shirley [37] infants were observed when the lid of an instrument case fell with a loud report. There was little in the nature of fear shown in response to this stimulus. In observations of children, English [11] reports, among other things, an unsuccessful attempt to condition a child against a toy by means of sudden loud noises. Valentine [39], in observations of his own five children, likewise finds many instances of apparent lack of fear in response to loud sounds and many instances of fear, other than of noises or loss of support, that seemed to arise quite apart from previous conditioning. In an experimental study of seventy children Jones [22] found that the factor of unexpectedness was important. Other studies dealing with this question are reviewed by Holmes in Part III of this monograph.

The problem of fear in the form of phobias and states of anxiety often arises in clinical and psychiatric work; in psychoanalytic literature, fear and anxiety are sometimes regarded as symptoms that express conflicts arising in connection with sex or mastery motives. There is also the view that fears in childhood and later years are influenced by birth traumata. There is much need of empirical evidence regarding causal factors in the development of anxieties and phobias.

The Rôle of Maturation. The concept of what is native and what is acquired in the field of fears, as in other aspects of human behavior, has undergone a change in the light of studies of the rôle of maturation in the development of the child. If a child at a certain stage of development exhibits behavior that was not shown at an earlier time it does not follow that the change in behavior is due primarily to learning.

Learning and growth are usually interwoven, and no one can

draw a sharp line between the relative effects of the two factors. But studies of normal development by Gesell [12-14], Shirley [37], Bayley [1], Halverson [17a], Gesell and Thompson [15], and others repeatedly demonstrate the contribution of maturation to the emergence of new items of behavior, new capacities, and new modes of response in the growing infant. Similar testimony comes from studies in which an attempt has been made to control the environment and to segregate the effects of learning and growth.

The rôle of maturation in influencing a child's fear-behavior is stressed by H. E. and M. C. Jones [22]. They set forth the observation that as a child develops his intelligence matures, he acquires keener perceptions and increased capacity to discriminate between events in his environment. As the child matures, he becomes susceptible to stimuli that previously were not differentiated in his experience.

Gesell [14] describes the reactions of an infant to confinement in a small, enclosed space. He observes that at ten weeks the infant may accept the situation without signs of protest, at twenty weeks the infant may show a mild intolerance, and at thirty weeks he may show definite signs of fear. Gesell suggests that this is a gradation of fear behavior based upon maturational sequences.

It is true that some learning will usually be involved in the changes in behavior that come with added growth. Intelligence does not grow in a vacuum, and although perceptive capacities do increase during the process of infant growth, each actual perceptual response depends upon learning and experience. Therefore, when the claim is made that the rôle of maturation must be considered in accounting for children's fears, this does not mean that learning is ruled out as a contributing factor. But recognition of the rôle of maturation does emphasize one point: the question of what are the original, "natural" fear stimuli cannot be solved simply by noting the stimuli that occasionally provoke fear during the first weeks of life and by assuming that subsequent fear in response to other events is conditioned upon these stimuli.

Although there is need of further study of the problem as to

what stimuli are peculiarly provocative of fear in infancy and early childhood, the fact remains, of course, that conditioning plays a large rôle in the development of fears. Abundant instances of the effects of conditioning can be noted in the experimental literature, and also in observations of children in daily life.

The Nature of Fear. Thus far, we have put the cart before the horse by speaking of the origins of fear without first inquiring just what fear is. When we raise this inquiry we face a question to which no definite answer has been given. While several psychologists were still busy with the question of what are the original emotional patterns, experimental findings presented the challenging question as to whether there are *any* clear-cut native emotions to which such labels as "anger," "love," or "fear" might be applied. Sherman [35] failed to find clearly differentiated expressive physical or vocal reactions in infants in response to stimuli designed to provoke startle, pain, hunger, or rage. Landis, [28-31], Brunswick [2], and others, in studies of adults, likewise failed to find clearly differentiated emotional patterns in response to various stimuli when measurements were made of such variables as changes in pulse, breathing, blood pressure, tensions within the digestive tract, and psychogalvanic reactions. Landis likewise failed to find distinctly differentiated facial expressions in response to stimuli designed to produce a variety of emotional states. Neither in the overt expressions of infants during the first weeks of life nor in the physiological reactions of adults have investigators hitherto found patterns that give the basis for a clear-cut distinction between such emotions, for example, as anger and fear.

When an attempt has been made to induce, by artificial means, some of the changes that supposedly take place in intense emotional excitement, it again appears that no constant pattern emerges. In a study made by Jersild and Thomas [21], hypodermic injections of adrenalin were administered to adults, and measurements of pulse and blood pressure, observations of pallor, tremor, restlessness, overt signs of "emotion," and subsequent tests for glycosuria were made. Not only did the various subjects differ tremendously in their reactions—in the magnitude

of the changes in pulse and blood pressure, in the signs of pallor and trembling, in overt outbursts of apparent anger, and after-effects shown in reported feelings of fatigue, petulance, or gloom—but there were many variations besides. In one subject the blood pressure might rise while the pulse changed but little, in another the reverse might hold true; and, what seemed more significant, the same subject's reaction, in response to the same dosage, varied considerably and inconsistently from day to day.

Observations such as these, and the observations made in studies of the overt responses of infants and the physiological reactions of adults, suggest the obvious conclusion that distinctive emotional patterns are difficult to detect. Before too much stress is given to the findings hitherto reported, however, it might be well if these findings could be confirmed by new investigations and by further variations of experimental procedure.

The tenor of the discussion concerning the question of what is meant by the term "emotion" and by the terms by which emotions are named can be seen in the titles of some of the articles on the subject. Under the title "Are There Any Native Emotions?" Dashiell [5] points to the fact that discriminable reactions corresponding to the traditional names applied to the emotions have not been established.

Dunlap [8], under the heading "Are Emotions Teleological Constructs?" discusses the lack of precision that prevails in the use of such terms as anger, fear, and joy. He points out inadequacies in the common procedure of naming emotions in terms of our estimation of the situation in which they arise. According to him, emotional behavior is complex, with many elements, any one of which may vary in a gradual way; the total variation is poly-dimensional, without discriminable steps or jumps, and there are no different emotions discretely distinguishable from one another.

Meyer [33] offers a discussion of "That Whale among the Fishes—the Theory of Emotions." Using the analogy of the whale, which at a distance seems large among the fishes but on close examination is found to be no fish at all, he questions the use of the term "emotions" in scientific discussion. Meyer pre-

dicts that the term will pass from psychological literature just as the term "will" was eliminated several years ago.

Duffy [7], writing on the subject of "Emotion: An Example of the Need for Reorientation in Psychology," questions the common assumption that there is an important difference in kind between "emotional" and other responses and reaches the conclusion that the distinction actually is one of degree rather than of kind. Further, since the precise degree of a given kind of behavior which is to be called "emotional" is never stated, "the concept is not useful in exact psychological investigation."

In the face of such statements it may seem foolhardy for the present authors to venture forth with a study entitled, "Children's Fears." The study was begun with knowledge of the difficulty of exact definition, and as the study progressed this knowledge increased. The present authors recognize the need of more precise terminology in the study of the emotions, based upon intensive research. They will be the first to grin and wave good-bye when, as has been predicted, the terms "emotion" and "fear" are sentenced to follow such previous worthies as "will," "instincts," "faculties," into the valley of forgotten names. But there still remains some justification for study of behavior that conventionally and none-too-precisely has been called "fear." When someone speaks of fear even a psychologist has a general notion of what he means.

A cue to the point of view adopted in the present study is given by Worcester [45] who writes under the title, "In Defense of the Whale—Emotion is at Least a Term of Convenience." Even though the whale is not a fish it at least is something: even though what has been called fear is really not fear but a variety of different things, it at least is worth while to find and to analyze, as far as is possible, just what those things are. In the present study, the aim will be to describe as objectively as possible the behavior that came under observation during the course of the study—behavior that was described as "fear" by observers or by the subjects themselves. In later sections of the study, further reference will be made to findings reported by other writers.

CHAPTER I

PARENTS' RECORDS OF CHILDREN'S FEARS

IN AN effort to study the frequency and apparent causes of fear behavior in the daily life of children, parents were asked to keep daily records for periods of twenty-one days. The {parents were provided with mimeographed forms and a letter containing additional instructions} these are reproduced in the Appendix.

In the directions to the parents, no effort was made to define what was meant by fear. The aim was simply to obtain an account from the parent of the situation that confronted the child when, in the adult's opinion, the child seemed afraid, and an account of the behavior exhibited by the child in response to the situation.

The data include 153 records kept according to these directions. The records represent 136 different children (from 119 families), ranging in age from 3 months to 97 months. In the case of 120 children, records of this character were submitted for only one 21-day period; the parents of 15 children kept records on two separate occasions, separated by an interval of from six months to more than a year; one mother kept records of her child's fears during three separate 21-day periods, with an interval of eight months between the first and the second, and of twelve months between the second and the third.

The number of cases at different age levels included in this division of the study follow. (Because of the limited number of cases above the age of 5 years, children aged 60 to 97 months are grouped together.)

Age in months	0-11	12-23	24-35	36-47	48-59	60-97
Number of children	8	23	45	46	22	9

The children include city dwellers, suburbanites, a few children living in small towns, and a few living on farms. About

half of the children attended the nursery schools of the Child Development Institute of Teachers College during recent years. Intelligence tests scores were not available in the case of many of the children, but such scores as were available, and such information with regard to education and socio-economic status as could be obtained in the case of the remaining subjects, definitely indicate that the subjects of the study were somewhat above average in intelligence and cultural background.

All parents who kept records did so of their own accord in response to requests. The investigators were not in a position to apply pressure or to exert coercion in asking a parent to take part. In a majority of instances, the parents who kept records were approached by the investigators themselves. In other instances, the approach was made through the instrumentality of colleagues and students.

VALIDITY OF THE PARENTS' REPORTS

It might well be asked whether the parents kept faithful records, whether they were competent observers and reporters of their children's behavior, and whether their report as to the number of hours spent with the child could be trusted. To such questions the authors have no complete answer. It was not feasible to introduce an independent observer into the home to keep records simultaneously with the parents. Unquestionably, parents would differ not only in the competence but also in the care they exercised in observing and recording a child's behavior. There are some considerations and some reservations, however, that may be set forth in connection with this problem.

As mentioned above, the work of keeping records was not an assignment but a volunteer performance. The fact that a parent would consent to enter upon the work bespoke some interest and good-will and to that extent added to the credibility of his reports.

Further, it seems reasonable to assume that the inadequacies of the records would consist rather of omissions than of distortions of data. It would be quite damaging if there were selective distortions or omissions of particular aspects of fear behavior,

but there are no grounds for believing that such selective influences were operating.

Since it must be recognized that all parents might not devote the same amount of time or care to the recording of fears, the plan in the study is not to use the data for the study of individual differences in the number of fears shown by a particular child as compared with other children during a given period of time. The aim is rather to use the data for the purpose of studying general trends as revealed by the combined reports on many different children.

In many cases one or the other investigator knew the parents, the home, and the child quite well, and was able, to some extent, to verify reports submitted by such parents; no difference could be detected in the trend of the records submitted by such parents as contrasted with others who were not well known to the authors. In many instances, likewise, there were numerous reasons for believing that a particular parent could be rated relatively high as an observer and reporter of child behavior; records submitted by such parents did not show trends different from those that came from parents whose competence the investigators were unable to judge.

DURATION OF THE RECORDS

The directions sent to each parent specified that records were desired during consecutive days for a period of three weeks or, if this were impossible, for a total of twenty-one days. The stretch of time covered by the twenty-one days of observation varied. Some parents submitted records for twenty-one consecutive days, while in other cases the observations extended over a longer period, with intervening days during which no records were made.

One factor that influenced the interval of time during which the records were taken became apparent soon after blanks had been sent to the first group of parents included in the study. As will be pointed out in the discussion of the results, it appears that a parent may keep an eye on his child for many days on end without noticing any signs of fear. Many parents, who appar-

ently were determined to submit as much information as possible, expressed concern over this fact. In a number of instances it was necessary, during the course of the record-taking, to repeat the instructions that no more was needed than to observe for a given number of days, whether or not the child showed fear during each of these days. However, a few parents later reported that they had not begun to keep records until the day when they observed the first instance of fear, even though they had observed the child during previous days for the purpose of recording his fears.

As can be seen on the form reproduced in the Appendix, the blank used in recording fears called for information concerning the exact number of hours during the day that the child was under observation. Unfortunately, all who made observations did not follow this instruction consistently, especially on days when the child showed no fear. Because of omission of this information on many records, a tally cannot be made of the total number of hours of observation devoted to children at each age level. To meet this shortcoming, as will be seen in the treatment of the results, the findings with respect to the frequency of various fears at different age levels are presented both in absolute terms and in percentages.

OTHER OCCASIONAL RECORDS SUBMITTED BY ADULTS

In an effort to obtain further data with regard to fears, an additional group of adults were asked to submit descriptions of fears they had observed in their contacts with children. Forms similar to the one reproduced in the Appendix, page, 352, were sent to a number of individuals, including staff members, present and former students at the Child Development Institute, and acquaintances of the experimenters or their colleagues. The letter which accompanied the forms described the various aspects of the study as a whole and then specified that additional records of "a more informal sort, from anyone who has had contact with children" were desired. The further statement was made that "we are asking simply that you describe as well as you can any fear situation that you have observed and which you can remem-

ber in some detail." ". . . we are interested only in children in the age range from birth to four years* . . . and ask for descriptions of as many different fear situations as you can recall from the past or which come to your attention at the present time."

In response to requests of this character, 52 individuals submitted reports of fears they had observed. The records included descriptions of 190 fears, representing 129 children.

It can readily be seen that this method of obtaining data is quite unsystematic and that reports thus obtained will be influenced by many chance factors in addition to personal bias and faulty memory. The aim in the use of this method was, however, not so much to obtain records based upon systematic observations as to obtain an indication of aspects of fear behavior which had impressed each individual most forcibly in his personal experience with young children.

The fears reported by these individuals were classified according to the scheme used in classifying the data submitted by parents who kept records for periods of twenty-one days.

* As will be noted in later tabulations, some individuals reported fears of children who were older than four years.

CHAPTER II

TREATMENT OF THE DATA

THE first step in the treatment of the data consisted in an attempt to find a scheme by which the fears could be classified and tallied. The aim was to classify the fears in terms of the situations in response to which fear was shown. If a record indicated that fear in response to a particular event actually appeared to be due to a previous conditioning factor, this factor was taken into account in classifying the fear.

DESCRIPTION OF CATEGORIES USED IN CLASSIFYING FEARS

A statement of the categories under which the fears were classed and tallied, as well as descriptions of specific fears to illustrate each category, is presented below. These categories were constructed, as far as was possible, along objective and trial-and-error lines. The first step in the process was to prepare a rough copy of the various specific situations described by the parents as being responsible for specific instances of fear. These scattered descriptions were examined to find items that appeared to be so similar that they could be grouped under a common heading. General descriptive titles were then phrased. Each specific situation was then examined in turn to find the descriptive heading under which it could be classed. If the item did not fit into any category, the wording of the category was revised or a new category was devised.

After preliminary work of this character, a tentative set of categories was prepared and each was given a number. Two experimenters then went to a portion of the original records, and, working independently, each of them classified the fears described by the parents according to these general categories by entering, in parallel columns, the number of the fear (as indicated on the

number of the sheet on which it was described) and the number of the category under which it could be classed. Following this, an item-by-item comparison was made between the two independent classifications. Comparisons were made not only with respect to the placement of a particular fear but also to find the degree of agreement in interpreting whether or not the behavior described by the parent should be regarded as a fear. The points of agreement and disagreement were then examined again, new categories were added, previously distinct categories were combined, or the phrasing of particular categories was altered in an effort to correct difficulties that had arisen. Thereupon this procedure was repeated with other portions of the data with a view to making further tests and refinements of the categories.

The final categories that emerged from this procedure are reproduced below. The plan in these, it can be seen, was to provide a means of obtaining a tally of fears under certain general headings (such as *noises* as distinct from *animals* or *falling*) and a tally of fears under more detailed headings (such as *noises arising in the child's immediate environment* as distinct from *noises from a remote or unseen source*).

While the work of classifying the data was in progress, it grew more and more apparent that many fears could not be attributed to a single factor. The following examples illustrate this point: a child who gave no signs of fear of darkness when at home shows fear of going to a dark room when visiting in a strange house; it appears that the factors of darkness and of strangeness of the environment both contribute to this fear. Again, a child shows no fear in response to a particular noise when in the company of other members of the family, but when the noise occurs while he is alone in a room, he gives signs of fright and hurriedly seeks the company of others; the factors of *noise* and *being alone* (for want of a better designation) seem to be contributing factors here. Again, a child who has been hit by an older youngster displays no overt fear of this child until an occasion arises in which this older youngster appears on the scene when the child is perched none too securely on the back of an armchair; the possible danger of falling or loss of support, plus the factor of

previous punishment inflicted by another, appears in this case to contribute to the fear.

In dealing with such contributing factors, two procedures could be used. The first would be to construct comprehensive categories to include combinations of two or more contributing circumstances. Thus, a category described as "fear of darkness in a strange place" might be constructed to serve as a heading under which the first illustration above might be tallied, as distinct from the separate categories "darkness" and "strange situation" under which other fears that appeared to be due to one of these factors alone might be tallied. Another procedure that suggested itself consisted of treating each factor in a combination of circumstances as a distinct item so that a complete tally might be obtained for that factor, whether it appeared to be solely responsible for fear in some instances or a contributing factor in others. On this basis, the fear described above would be labelled (in terms of the Arabic designations in Figure 1) as $18 + 43$, meaning *darkness* plus *strange situation*. Subsequently, when a count was made of the frequency of the various situations producing fear, each of these events could receive a separate tally. The advantage of this procedure in providing a tally of the number of times children showed fear in response to a particular event, whether this event appeared alone or in combination with other events, can be seen. Further, if a new category were formed to accommodate each new combination of circumstances in response to which fear was shown, as indicated in the alternative procedure described above, the headings under which fears could be tallied would become inconveniently numerous and unwieldy.

The fact that some fears apparently could not be classed as due to a single circumstance complicates the tabulation, however, no matter what the procedure used in treating such fears may be. It is possible to show by exact tally how frequently each circumstance appeared to be a sole cause* and how frequently

*The writers recognize that the use of the term "cause" is not fully justified and that a better expression would be "situation confronting the child when fear was shown"; the term is used only for convenience, with this reservation in mind.

it appeared as a contributing cause in eliciting a fear. When a tabulation of this kind is made, however, it can be seen that the number of *situations* that gave rise to fear is larger than the total number of *fears*, since a single fear may be tallied under two separate headings. In later tables, and in the discussion accompanying the tables, this discrepancy is taken into account.

In the classification presented below, Roman numerals are used to identify general categories, and consecutive Arabic numerals identify sub-categories under each Roman heading. In addition, certain inclusive general categories, representing items that are identified by separate Roman numerals, are identified by capital letters.

At the end of each category, another symbol is given in parentheses. Each such symbol represents the identification originally assigned to that particular category in classifying the data; the symbol is included to provide a permanent record of original identifications, and is not needed, in the present case, for the understanding of the categories.

In addition to the parenthetical symbols at the end of each category, certain symbols are introduced in connection with some of the illustrations given for the category. The symbol x (plus the Arabic number) represents a fear described as arising in response to an event as the result of factors previously operating but not operating at the moment when the particular fear was observed (for example, fear in response to an immediately painful situation, such as stepping on a thorn, is identified as 15; fear of thorns, or of walking barefoot in the previous locality of thorns, even though no thorn is giving pain at the time, is set down as 15 x). The symbol ox added to a given Arabic designation, represents fear with regard to the safety of others: when the child himself exhibits fear of falling, the identification of the appropriate category is 12a, when he exhibits fear in response to seeing his brother confronted with the danger of falling, the identification becomes 12a ox .

Although an effort was made to classify each fear in terms of the original factor that elicited the fear—so far as such information was supplied—the reader will soon observe in the following

pages that many of the categories used in classifying the data can hardly be regarded as representing original, unlearned, elementary fear stimuli. In the absence of an account of the past history of a fear response, it was necessary to classify it in terms of the characteristics of the immediate situation in response to which the response was shown.

COMMENTS ON CATEGORIES DESCRIBED IN FIGURE 1

It can be seen in the above classification that an effort was made to tally fears as far as possible in terms of situations that originally provoked them. For example, if a child to-day shows fear of a pan, and a former record described a fear shown in response to the noise produced by the pan falling to the floor, this event is set down as "fear of objects previously associated with noise" rather than simply as "fear of specific objects." Fear of a person previously associated with the infliction of pain is not set down as "fear of persons," but as "persons associated with pain." Fear shown in response to the barking of an unseen dog is listed as fear of noises from a remote source rather than as fear of dogs. Likewise, if a child showed fear when a dog in his immediate environment barked, this was classed under the heading of noises if the child had shown no fear of the dog itself.

In so far as the experimenters permitted any bias to affect them, the bias was in favor of classing fears in terms of situations that have conventionally been regarded as particularly fear-provoking, such as noise and loss of support, or in terms of other circumstances that have also been stressed in the writings, such as sudden and unexpected movement or pain. When there was no clue to the past history of a response, as we have already pointed out, the fear was classified in terms of the situation immediately confronting the child when fear appeared, even though this situation may not be regarded as an original unlearned fear stimulus.

The reader will notice some categories in the classification that do not readily group themselves under general headings. Fear shown in response to clouds of smoke, for example, is given a separate category, but is grouped, perhaps questionably, with

FEARS OBSERVED

21

FIGURE 1

Categories, with Specific Illustrations, Used in Classifying and Tabulating Children's Fears. The categories represent situations in response to which fear was shown as described (a) by parents who kept records of their children's fears for periods of 21 days and (b) by an additional group of adults who kept occasional records.

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
I. ANIMALS*		117	30	147
ra.	Unaggressive, non-threatening dogs; dogs that the child sees and fears even though the animal is not advancing toward the child, or is not active in any way that an adult might construe as an immediate menace; e.g., seeing a small dog on leash. (ra)	26	2	28
rb.	Aggressive dogs, dogs that definitely advance toward the child (whether playfully or otherwise) put paws on him, brush up against him, or frisk about playfully in such a manner that there is possibility of contact or collision; dog rushes up and takes toy from child; dog runs after ball near child; runs toward child; thrusts nose against child's abdomen; runs into child. (rb).....	50	14	64
rc.	Other animals, non-threatening and non-aggressive (as in ra). Inactive chicken; squirrel in park; horse standing in yard. (rc)	12	6	18
rd.	Other animals, aggressive, advancing toward or threatening (as in rb). Approaching bull; cat walks on child's foot; spider crawling on child's arm; cat jumps up on child's crib; cat scratches child; bristling black cat; cat runs for child; horse steps on sidewalk as child passes; horse advances toward child; horse shakes head violently as child passes; angry hen; tame rabbit hopping toward child; hippopotamus at zoo opening mouth wide near child; elephant reaching with trunk to take peanut from child's hand; turtle wiggling while resting on child's hand; spider in bath water. (rd)	29	8	37
II. SPECIFIC OBJECTS, EVENTS OR SITUATIONS (not described as strange or unfamiliar or as having been associated with previous noise, pain, or other ulterior conditioning factors, reason for fear unknown).		12	7	19
2.	Specific objects: ironing board; garden hose; toy fish; small balloon; child notices small electrical attachment lying on table; kiddie car. (2a)	10	5	15
3.	Clouds of smoke (2d)	1	0	1
4.	Specific situations; nursery school roof; fear of previously unfeared toilet, reason unknown (4)	1	2	3
III. SUDDEN MOVEMENTS		32	5	37
5.	Sudden, unexpected movements; sudden opening of umbrella; movement of floating towel in bathtub; collapsing balloon; toy rabbit suddenly squeezed from			

*Representing the succeeding specific (Arabic) categories.

CHILDREN'S FEARS

FIGURE 1 (*continued*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
	rubber ball; large balloon tossed about in the wind; fluffy feather moving by starts across the floor. (15)	20	4	24
5x.	Objects feared apparently by reason of association with previous sudden or unexpected motion: toy rabbit that previously jumped suddenly; fear of balloon following previous sight of slow deflation. (15x) . . .	12	1	13
5y.	Sudden or unexpected movements by persons: sister comes through doorway unexpectedly; playmate suddenly jumps near child. (15y)	0	0	0
IV.	LIGHTS, FLASHES, objects feared by reason of previous association with lights and flashes, shadows and reflections.	11	2	13
7, 7x.	Lights and flashes; sudden switching on of lights; flashes of lightning. Objects feared by reason of previous association with lights or flashes. (27, 27x)	5	2	7
8.	Shadows and reflections: child sees own shadow on the floor; bright moving spot on the wall (reflection of sun rays from bright object in room); child sees own shadow on wall; child sees own reflection in mirror. (29)	6	0	6
V. 6.	SUDDEN DISAPPEARANCE OF PERSONS (as distinct from fear of being alone or abandoned); mother suddenly turns into side room while being followed down the hall; sudden disappearance of strange boy under water. (10y)	2	1	3
VI. 9.	RAPIDLY APPROACHING OR PASSING OBJECT: large balloon representing Gulliver in parade approaching in child's direction; waves come rolling in toward child. (15r)	1	0	1
VII. 10.	SUDDEN OR RAPID MOTION PLUS NOISE: potty falls off bathinette and clatters on floor; scatter of pieces of rubber and noise when balloon bursts; vibrating and whirling noisy mechanical toy; rapidly approaching and whistling tug boat; train thunders into station; dish rolls off table and hits floor; rapid and noisy collapse of balloon; rapidly passing and whistling train; rapidly approaching automobile with horn blowing. (15n)	14	0	14
A.	<i>Total situations involving element of sudden, unexpected, or rapid motion or lights, flashes, reflections (Categories III-VII)</i>	60	8	68
VIII.	NOISES	157	39	196
11a.	Mechanical noises occurring in the vicinity of the child and ascertainable as to source if he looks around; falling screen; loud blast from radio; vacuum cleaner in operation; motor starts engine while child is in car; growl of dog; telephone rings;			

FEARS OBSERVED

23

FIGURE 1 (continued)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
dog barks; sound of doorbell; musical hum made by top; dumbwaiter buzzer; banging radiator; noise of toy motor; bursting of paper bag; noise from boats, autos, etc., roaring of lions; screeching of birds at zoo; striking of clock; flushing toilet; static on radio; slamming door. (16a)		97	22	119
11b.	Vocal noises by other persons in the child's immediate environment; sudden loud laughter; mother says emphatically, "Now, we are ready," loud laughter and talking; child is suddenly spoken to; "wild animal" noises made by other children. (16b)	16	6	22
11c.	Vocal noises from an unseen or remote source: children playing in other room make loud outcries; women calling from remote room; person who has entered room unnoticed speaks. (16c)	5	1	6
11d.	Mechanical or non-vocal noises from an unseen or remote source: water from hose beating against outside of house; distant auto horn; whistle of distant boat; heavy tread on stairs; noise in apartment above; noise in adjoining apartment; howling wind; noise made by a distant band. (17)	19	2	21
11t.	Thunder (17a)	1	6	7
11ax.	Fear of agent or source of non-vocal noise apparently due to previous experience of noise even though the object is now silent: fear of vacuum cleaners, steam rollers, orange squeezers, etc., previously noisy, now silent; dog that previously startled with loud bark; all rubber articles after startle by bursting balloon, picture of lion following scare due to roaring of lions during visit at zoo; picture of train following fright in response to actual roaring train. (18)	15	2	17
11bx.	Fear of persons apparently by reason of previous fright due to noise emitted by the person. (18x) ..	4	0	4
B. <i>Total situations involving an element of noise, including all of VII and VIII</i>		171	39	210
IX.	FALLING, DISPLACEMENT, DANGER OF FALLING, BEING MOVED RAPIDLY THROUGH SPACE.	58	23	81
12a.	Falling, being thrown off, slipping, sliding, teetering, being on a shaky platform, on vehicle out of control and running backwards; being on a moving swing; being carried downstairs rapidly; slips while climbing stairs; standing on rocking chair; begins to slide off couch; seated on large moving toy dirigible; table on which child lies is pushed; child's high chair is playfully tipped; driving down hill in reverse; (ox: younger brother slipping on stairs); (child's brother is lifted high into the air). (20)	38	5	43

CHILDREN'S FEARS

FIGURE 1 (*continued*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
12x.	Possibility or danger of falling although no displacement or motion is actually in progress, fear of high places, fear of situations due to previous association with falling or displacement: fear when placed on high truck; fear of descending high fence; looks over edge of high bed; top of stairs looking down; fear while perched on step ladder. (21)	18	14	32
12b.	Going up or down in elevator. (22)	2	4	6
X. PAIN, PAINFUL TREATMENT, PAINFUL SITUATIONS, persons inflicting pain, objects inflicting pain, fears arising as result of previous infliction of pain, also actual shocks.				
13.	Persons inflicting pain (other than medical) or corporal punishment with actual specific blows (as distinct from harm such as threatening to shoot, throw into water, etc.) or who by specific word or gesture are immediately threatening to hit, inflict pain or corporal punishment: boy who was slapping child; boy strikes with fist at child's eye; older boy clawing at child's face; sister strikes at child; older child who scratches child. (8)	82	25	107
13x.	Persons previously associated with pain or previously inflicting pain (as in 13) but not at the moment active or threatening (other than medical). Person who previously spanked; fear of child who previously hit. (8x)	12	2	14
14a.	Fear of medical situation, of doctor's office and its surroundings and contents, occurring when child is brought to the situation or told that he will be brought, and appearing in response to the situation as a whole before doctor or nurses begin to approach or to apply treatment or wield any instruments: immediate fear on approach to health station; fear on approach to doctor's office; nurse's office at nursery school. (40a)	9	2	11
14b.	Fear in medical situation arising only when doctor or nurse begins to perform (Note: If child has already shown fear in response to situation as a whole, do not tally here); presence of surgeon who previously performed tonsillectomy; (ox: doctor approaching father). (40b)	10	6	16
14c.	Fear in medical situation apparent only when specific instrument or piece of apparatus is introduced (Note: If child has already shown fear in response to situation as a whole or in response to doctor or nurse, do not tally here): sight of hypodermic needle; doctor brings out stethoscope; clinical thermometer. (40c)	7	5	12
		9	2	11

FEARS OBSERVED

25

FIGURE 1 (*continued*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
15.	Painful experience or tactual sensory shock, not including medical situation or pain inflicted by persons (Note: Count response as fear only if reaction is described as containing an element of fear, including such elements as prolonged crying, clinging, running to mother, trembling, etc., distinct from immediate cry or withdrawal in response to the impact of pain as such): Sprinkle of cold water in bathing; rush of air against child's face through mouthpiece of balloon; fear persisting following a violent coughing attack; hysterical crying and trembling for more than an hour and withdrawal following slipping against hot radiator; electric shock on contact with a transformer; (ox: older brother pushes blade of knife across his hand; brother hits mother and mother pretends to cry; older sister hits younger sister; fear when mother approaches to touch hot objects). (12)	12	0	12
15x.	Object or event previously inflicting or associated with physical pain or tactual shock: Towel child had previously sat on when hot; brush with stiff bristles that previously pricked; fear of plant following previous experience of being pricked by thorns of another plant and fear of leaf of raw spinach apparently for same reason; fear of potato following previous contact with hot potato; electric light bulbs after previous contact with hot bulb; radiators after previous contact with hot radiator; bath tub in which child had hurt her elbow; water basin after previous scald; steam after previous scald; hot water bags; iron objects after a burn (12x)	19	4	23
16.	Painful situation other than medical and distinct from reaction limited to specific person: fear of basin and preparations to wash child's head; fear of clipping and scissors during haircut; having head washed. (13)	3	1	4
16x.	Situations previously associated with pain as in 16. Barber shop where part of child's ear had previously been clipped off. (13x)	1	3	4
XI.	STRANGE, NEW, UNFAMILIAR OBJECTS AND SITUATIONS, DEFINITELY DESCRIBED AS UNFAMILIAR, with this factor of strangeness appearing as responsible for fear.	58	19	77
17.	Strange objects, definitely indicated as new or unfamiliar, with this factor indicated as an apparent causal factor in producing fear. Also objects definitely falling in this category at a previous time with no evidence of other prior or intervening conditioning factors (Note: If object is part of situation which			

CHILDREN'S FEARS

FIGURE 1 (*continued*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
	child apparently fears as a whole, tabulate only under 18): notices mounted elk's head on wall for first time; mother's new fur collar; mother's new black coat; new bathtub; new tin toy; parcels just brought home from store; new fur bear; strange black ostrich feather; unfamiliar elevator; unfamiliar barber chair shaped like a horse; unfamiliar red toilet seat; toy elephant; unfamiliar perfume atomizer; unfamiliar toilet; child comes upon large toy duck in hallway; fear at first sight of ocean. (2c)	24	5	29
18.	Strange situations, definitely described as such, including elements involved in the situations, such as objects, fixtures, and persons (Note: Unless fear is shown only in response to advances made by persons or only in response to a specific object that is a part of the situation) with no evidence of prior or ulterior conditioning factors; also situations now as well as previously feared apparently by reason of strangeness: being bathed in new bathroom and bathtub; visit to strange house; first visit to barber shop; strange subway station; visit to department store; visit to bank; first experience with ground covered with snow; first introduction to nursery school; first visit to linen shop; first visit to sister's school; first visit to a farm; being taken into an automobile for the first time. (3a)	20	14	34
19.	Unfamiliar variations or changes connected with previously familiar and non-feared objects: first sight of broken head on familiar doll; crack in familiar orange squeezer; moving eyes of doll; familiar doll without head; crumpled blankets on bed; familiar doll with eyes sunk back into head as result of injury; toilet with previously white but now green colored seat; notices eyes are missing from statue child has previously observed without fear; colored water in toilet (3b)	14	0	14
	(N. B. No single episode is to be tallied under more than one of the three foregoing headings.)			
XII.	STRANGE PERSONS, ACTIVE OR INACTIVE WITH REFERENCE TO THE CHILD.	92	19	111
20.	Persons, including strange and unfamiliar persons, who make no advances toward the child and who have not been known to be associated either with pains, noise, or any other ulterior conditioning factor (do not include beggars, mendicants): 3 strangers in child's room; presence of stranger in house; placed on floor near stranger; sees stranger through door of bedroom; retreats from room where strange guest is			

FEARS OBSERVED

27

FIGURE 1 (continued)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
	visiting with parents; 3 strange painters in the house; child sees several boys approach house; strange people riding with child in elevator; hikers camping near child on picnic. (5)	25	6	31
20a.	Persons (as in 20) but including only beggars, peddlers, mendicants, etc.: peddler coming to the door; beggar coming to the door. (5b)	2	0	2
21.	Persons specifically advancing toward (as distinct from laying hands on) or accosting the child, looking at him, or clearly making him the object of their attention; strange guests rush at child; visitors enter child's room; stranger walks toward child, speaking to him; clerk in store talks to child; spoken to by stranger on street; stranger says hello. (6a)	18	5	23
21x.	Persons who have previously been associated with fear as in 21 but who are not now advancing toward or accosting the child. (6ax)	0	0	0
22.	Strange persons picking up the child, laying hands on him to hold him, help him, caress him, etc.; strange shoe salesman starts taking off child's shoes; stranger playfully pulls child's clothes; stranger wheels child in baby carriage; stranger stooping to pick up child; strange visitor puts hat on child's head; person reaches to pick up child; held in arms of stranger. (7)	14	3	17
22x.	Persons, now inactive, but previously associated with fear as in 22. (7x)	1	0	1
23.	Unfamiliar variations connected with otherwise not-feared persons; uncle wearing dark glasses; father wearing glasses (not customary); grandmother without her glasses; familiar uncle making faces; familiar boy winking first one eye then the other; bandages on mother's finger; cloth around grandmother's head; mother in the nude; mother with cold cream on face; father's hands covered with paint; playmate with bandage over eye. (3c)	13	1	14
24.	"Queer" people, deformed people, cripples, people with nervous tics, curious gaits; also old bent and wrinkled people: man with marked tremor; woman with nervous jerk of the head; very aged and wrinkled grandmother seen for the first time (followed by apprehensive inquiry about wrinkled people for several days). (6b)	5	1	6
25.	People wearing false faces or masks and costumes; brother puts on false face; sister wearing false face; playmate wearing mask; clowns; salesman dressed to resemble Mickey Mouse; mother wearing costume, mask. (6d)	14	3	17

(N. B. No single episode is to be tallied under more than one of the divisions under XII.)

CHILDREN'S FEARS

FIGURE 1 (continued)

	Total Number of Fears Reported in Response to This Situation		
	21-day Records	Other Occasional Records	All
<i>C. Total strange objects, situations, persons, and unfamiliar variations connected with known or familiar objects and persons (XI-XII)</i>	150	38	188
XIII. DANGER OR THREAT OF BODILY INJURY OR HARM OTHER THAN INFLECTION OF A SPECIFIC PAIN STIMULUS OR CORPORAL PUNISHMENT, AND FEAR IN RESPONSE TO OBJECTS OR EVENTS ASSOCIATED WITH BODILY INJURY, ASSAULT, CONFINEMENT, ETC.	23	20	43
26. Threat of harm and personal danger at the hands of another person; older child points gun at child; fear of older boy who threatened to put him in prison; fear of grocery man who said, "I'm going to take you home with me"; fear of boys who chased child and threatened to harm him; older child who threatens, "I'm going to chop you up in tiny pieces." (14a)	4	1	5
26x. Person feared as result of previous association with harm or danger as in 26; uncle who previously threatened to come and hurt child. (14ax)	4	0	4
27. Being shut in a small space: older child attempts to shut child into small clothes closet. (23)	1	1	2
28. Fire: notices beginning of blaze in fireplace; flames bursting from near-by automobile. (25)	2	7	9
29. Dangerous or possibly dangerous situations (apart from machinations of other persons) (ox: fear that father would be taken to jail); slips and is submerged under water in bathtub; fear of backing into another car while parking on street; driving at low speed in traffic over road that is under repair; child present during traffic accident; riding in car that is skidding and out of control; diving; (fear that pet dog would be run over; fear that cat would be hurt by dog that had chased and treed it.) (12T, 43, 35)	7	11	18
30. Playful threats and gestures, and hide and go seek: (33)	2	0	2
31. Sight of blood (fear shown only at sight of blood and not previously in response to actual injury in progress); scratches knee with no sign of fear until child catches sight of blood flowing; shows fear after cutting lip when he discovers blood flowing; (ox: sight of blood flowing from brother's lip.) (12y)	3	0	3
31b. Sight of injured people	0	0	0
XIV. FEAR IN RESPONSE TO WARNINGS, SUGGESTIONS OF DANGER, STATEMENTS THAT A SITUATION OR OBJECT MIGHT BE DANGEROUS, AND FEAR DISPLAYING APPREHENSION OVER GUILT AND WRONGDOING	15	1	16
32. Warnings, "No, hot!" as child approaches stove; "Don't do that," "Be careful," "You'll fall down and hurt your nose," "Don't touch." (12b)	7	0	7

FEARS OBSERVED

29

FIGURE 1 (continued)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
32y.	Objects or events associated with previous warning. (12bx)	0	0	0
33.	Fear of persons previously described as harmful or dangerous. (Apart from direct verbal or overt activities of the persons) (14y)	0	0	0
34.	Fear as result of unspecified disciplinary measures: displaying apparent apprehension over the outcome of an act that has just been committed even though no punishment is threatened or imminent at the time: withdrawing, crying, and trembling after child accidentally kicks mother's face; signs of fear following breaking of cup (person who previously disciplined not present); apprehension shown by child after wetting his pants; fear shown after spilling milk; child showed apprehension (in absence of mother) after having wetted and dirtied sleeves and waist from playing in water; apprehension shown after child had cheated playmate out of prize that was given with a box of candy; signs of fear in church after having noisily snapped a rubber band against the pew. (8y)	8	1	9
D.	<i>Total involving element of harm or danger or anticipation of harm and danger (other than specific pain stimulation), including falling (IX, XIII, XIV)</i>	96	44	140
XV. SIGNS OF FEAR IN OTHERS				
35.	Fear in response to signs of fear shown by others: fear of dog apparent only after older sister exhibits marked fear; fear of turtle following signs of fear shown by older child (child previously unafraid); fear of cows not apparent until adult begins to mutter and retreat; fear of toy teddy bear (previously unfeared) following signs of fright in other children; fear arising during electrical storm when child's mother became hysterical; fear of mouse in room following mother's screams although mouse was previously noticed and not feared. (31)	5	5	10
XVI. LOSS OF PROPERTY				
36.	Fear regarding possible loss of personal property: apprehension over loss or breakage of property as shown by repeated examination of toys and warnings to others not to take or step upon them. (34)	1	0	1
XVII. DREAMS, ETC.				
37.	Fears arising during dreams as revealed by child's outcries and his report upon awakening; also fear of dreaming: child wakes up screaming, "The tiger will get me"; wakes up screaming and looking wildly around saying, "A pink man with a saw"; on awak-			

CHILDREN'S FEARS

FIGURE 1 (*continued*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
<p>ening from sleep, "I was afraid," "I was riding on a bicycle, I fell down; I hurt myself"; awakens from sleep with a cry, "The big bad dog"; cries out in sleep, "Mama, I am having a bad dream"; child awakens from sleep crying and says with tense voice, "I heard thunder three times" (no actual noise had occurred); awoke from sleep calling for father and exclaims she had dreamed about the bad witch; awoke calling for parent, explaining she had dreamed an eagle was picking her up. (24)</p>		7	3	10
<p>XVIII. FEARS AND APPREHENSIONS CONCERNING PERSONAL INADEQUACIES, FAILURE, AND RIDICULE.</p>		6	1	7
<p>38. Apprehension concerning failure, worry over grades in school: crying and vocal apprehension over possible failure to do as well as other children in drawing lessons; whimpering and subsequent anxious inquiry, "Will I get a naught if I didn't finish the numbers?" after having failed that day in school to complete an arithmetic speed test; verbal and physical signs of apprehension over possible failure in writing lesson; apprehension over possibility of not being included in cast of school play. (36)</p>		6	1	7
38b. Apprehension over personal appearance		0	0	0
38c. Sex worries. (58)		0	0	0
<p>39. Fear of ridicule: signs of apprehension over possible ridicule of other children following failure in a game. (37)</p>		0	0	0
39b. Talking to, performing in presence of others.		0	0	0
<p>XIX. FEAR OF ROBBERS, BURGLARS, KIDNAPPERS, ETC., IN THE ABSENCE OF SUCH CHARACTERS; ALSO FEAR OF DYING.</p>		2	2	4
<p>40. Burglars, robbers, and their activities, kidnappers, not actually present; signs of fear after hearing account of the stealing of his sister's jewelry. (32) . . .</p>		1	0	1
<p>41. Fear of dying (self) in the absence of any immediate illness or danger or threat of injury: repeated anxious inquiry following death of neighbor's child, "Mother are we going to die?" (38a)</p>		1	2	3
<p>42. Fear of death as such and matters connected with death, corpses, funerals, cemeteries, coffins, anxious inquiry after seeing dead squirrel. (38b)</p>		0	0	0
<p>XX. THE DARK AND BEING ALONE IN THE DARK (IF IN CONNECTION WITH FEAR OF IMAGINARY CREATURES, TALLY ONLY IN 46).</p>				
<p>43. Retreats from and refuses to enter dark room when alone; fear shown when door between lighted hallway and unlighted bedroom is closed; refusal to go into</p>				

FEARS OBSERVED

31

FIGURE 1 (continued)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
room until light is turned on and requests that light be turned on; refuses to go through corridor to dark room but goes when adult steps into corridor where he can be seen through door of dark room; refusal to enter cellar on an errand for mother until given a flashlight; fear of being outside the house in dark. (9)		24	7	31
XXI. BEING ALONE (APART FROM DARKNESS) AND FEAR OF BEING ABANDONED.		19	15	34
44. Being alone (if alone in dark, tally only under 43) (if in connection with imaginary creatures, tally only in 47): cries, pulls at door when left alone in room; calls repeatedly to mother if alone in room. (10)		10	7	17
45. Fear of being abandoned by parent: mother walking toward door with coat on; mother temporarily leaves child in store; father leaves house with 2 guests; mother leaves child in elevator momentarily to return to apartment; repeated inquiry, "You won't go away and leave me, mom?" whenever mother puts on wraps. (11)		9	8	17
XXII. THE DARK AND BEING ALONE PLUS SPECIFIC MENTION OF IMAGINARY AND SUPERNATURAL CREATURES OR ANIMALS FEARED WHEN ALONE OR IN THE DARK.		13	1	14
46. Fear of the dark plus mention of specific imaginary creatures (other than animals) in the dark: child needs to go to bathroom but shrinks from going and says, "Dark upstairs, bogey man get in"; refusal to enter bathroom unless light is turned on saying, "Bogey man in there"; fear of creature called, "Hamp" when in the dark. (9p)		4	1	5
46a. Dark plus imaginary animals: child goes for book upstairs but comes back saying, "Come with me, doggy upstairs," hurries from dark room saying, "Doggy's in there." (9pe)		2	0	2
47. Being alone plus specific mention of imaginary and supernatural creatures feared when alone (other than animals): child leaves dark room and refuses to reënter saying, "I'm afraid of Helen" (imaginary child); refusal to stay alone because "man in picture comes out and kills Henry"; cries and calls when left alone and says, "Man in fireplace, Henry afraid." Child comes downstairs (was going up alone) and goes to mother saying, "The bogey man upstairs." (10p)		4	0	4
47a. Being alone plus specific mention of imaginary animals: refusal to enter room alone (otherwise non-resistant child) with final exclamation, "Don't let deer bite me." (10pe)		3	0	3
E. Total dark, being alone, being abandoned (XX-XXII)		56	23	79

CHILDREN'S FEARS

FIGURE 1 (*concluded*)

		Total Number of Fears Reported in Response to This Situation		
		21-day Records	Other Occasional Records	All
XXIII. IMAGINARY AND SUPERNATURAL CREATURES (not occurring in connection with actual or threatened experience or being alone or in the dark).				
		18	3	21
48. Imaginary animals: repeated anxious inquiry concerning lion; fear of animals after seeing moving picture and refusal to go to movies again; "Big dog hurt you" (after hearing story of Red Riding Hood) (1e)				
		6	2	8
49. Other imaginary characters: "The sandman is coming"; "The man making noise"; "There she is coming through the door" (referring to imaginary visitor); child whispers, "Something hurt me by the window"; "Sister told me bogey man, bad man"; runs quickly from doorway to mother saying, "Man might bite me"; imaginary burglars. (28)				
		10	1	11
49x. Objects associated with imaginary creatures: fear of fireplace previously associated with bogey man. (28x)				
		2	0	2
F. <i>Total dark, being alone, imaginary creatures (XXII-XXIII)</i>				
		31	4	35
G. <i>Total dark, being alone, imaginary creatures, dreams, ridicule, robbers, etc., death and dying. (XVII-XXIII)</i>				
		89	32	121

specific objects and situations. Fear shown in response to the sudden disappearance of persons (as distinct from being left alone or being abandoned by the parent) is treated as a category by itself.

RELIABILITY OF THE CLASSIFICATION OF FEARS

The classification set forth in Figure 1 was used independently by two workers in classifying the fears reported in the case of 82 children, chosen at random from among the data in the study as a whole, and representing 355 fear situations. To find the agreement between the classifications, an item by item comparison was made between the two. Tallies were made of all items in each classification in which there was agreement or disagreement. If an item was classed under one heading by one worker and under a different heading by the other, this added a tally of two to the disagreement score; if both tallied the same item

under the same heading, this added a tally of two to the agreement score; in cases where one worker classed a fear as due to two factors, and the other classed it as due to only one of these, this added a tally of one to the disagreement score. When comparisons were made according to this plan between the independent workers on the basis of the specific categories (labelled with Arabic numerals) the agreement was 90 per cent. When comparisons were made on the basis of more general categories (such as the general category of *noise* as contrasted with more specific categories under this heading, such as noise from a remote source, noise from a proximate source; or *animals*, as contrasted with the specific categories, "active, aggressive dogs," "inactive, non-threatening dogs") the agreement was 97 per cent.

CHAPTER III

AGE DIFFERENCES IN FEAR

IN THE treatment of the data, a number of different tabulations were made, dealing with the results in minute detail as well as in terms of more general categories. Some of these tables are reproduced in the following pages, while others are reviewed but not presented in full.*

The first table that was prepared consisted of a tabulation of all fear situations, separately tallied as sole or contributing factors, separately tallied in terms of the detailed categories shown on pages 21 to 32, and tallied to show the distribution of fears reported *at each age level* by (a) parents who kept records for 21 days, (b) other adults who kept occasional records, and (c) these two groups combined. By reason of its unconscionable length, this table is not here reproduced.* Certain general findings that it shows may be reviewed briefly.

Parents who kept records for 21 days reported a total of 710 separate instances of fear. Of these, 651, or 92 per cent, were described as being due to a single factor (on the basis of the scheme of classification described on pages 21 to 32), and 59, or about 8 per cent, were described as arising in response to a combination of circumstances. When all sole as well as contributing situations are tallied, the total number is 769. Other adults who reported occasional fears described a total of 190; 155 of these were described as arising in response to one of the situations noted in the foregoing classification, and 73 were described as being due to a combination of circumstances.†

* Tables that are referred to in these pages but not reproduced are on file in the Library of Teachers College, Columbia University.

† Noises and strange and unfamiliar objects or situations occurred most frequently as contributing factors in fears that appeared to be due to a combination of circumstances; other factors that frequently contributed were the dark, being alone, the presence of strange persons, and sudden and unexpected movements.

AVERAGE NUMBER OF FEARS REPORTED PER CHILD

Mention has already been made of the fact that many parents, while in process of keeping records of their children's fears, reported to the investigators that fear occurred so seldom that they would not have much to report. Such observations are borne out by the data as a whole. In the 153 21-day records that were submitted, there were descriptions of 710 fears, or an average of 4.64 fears per child. This means, in the average case, only one fear approximately every four and a half days. To be sure, all children were not under observation during all twenty-four hours of the day, but the figures still indicate that overt expressions of fear are relatively infrequent. As compared with anger, for example, the frequency of overt signs of fear seems to be very small. Although no exactly comparable data are available with respect to anger and fear in the present study, such observations as were made in the case of some children distinctly support this conclusion. An attempt was made at the time of the study to observe some of the children during their free play in the nursery school, with a view of recording signs of fear. The same children, in another study,* were observed during their play in an investigation of children's conflicts with one another. Instances of aggressive and combative behavior far outnumbered instances of behavior which might be labelled as fear. Definite signs of fear occurred so seldom (except during the first days of school when some children were meeting for the first time the experience of being abandoned by their mothers in a strange place) that it did not appear feasible to study fears by the method of observation in the nursery school.

The data with respect to the average number of fears per child are, of course, influenced by the fact that the children lived in a protected environment. As noted earlier, a small number of rural children were included in the records. Some of these exhibited a slightly larger number of fears than did the city children, but the differences are so small and inconsistent, and the number of cases so limited, that no significant comparisons can be made.

* *Conflicts between Preschool Children.* A. T. Jersild and F. V. Markey, Child Development Institute, Teachers College, Columbia University (In press).

When grouped according to yearly age levels, the average number of fears per child in the 21-day records are as follows:

	Age in Months					
	0-11	12-23	24-35	36-47	48-59	60-97
No. of cases	8	23	45	46	22	9
No. of fears	45	147	251	160	76	31
Av. no. of fears	5.6	6.4	5.6	3.5	3.5	3.5
A. D.	4.3	3.9	3.7	2.3	2.0	2.7

The foregoing summary shows a decline in frequency of overt signs of fear after the age of two years, but the variability at all age levels is high.

METHODS OF PORTRAYING THE RESULTS

By way of introduction, a word should be said concerning the various ways in which the general trends of the findings may be presented. First of all, tables may be presented to show a count of all occasions on which fear was exhibited in response to a certain situation. The totals in such tables would correspond to the totals shown on pages 21 to 32. Thus, if the same child is described as being afraid of a dog on four separate occasions, these episodes would be represented in the table by a tally of four.

Second, a count may be made of the number of distinct fears shown by each child, with a tally of *one only* for one or several fears of the same class. On this basis, the child just described would add one and not four to the tallies under the heading of "dogs." To tabulate the results in this manner it is necessary, of course, to refer to the original data.

In some respects it can be seen that the latter procedure gives a more representative picture. By way of illustration we may assume that only two children are included in the study. The records for child A show that he feared noise once and loss of support six times. The records for child B show that he had one fear of noise and no other fears. The totals, then, are: noise 2, loss of support 6. When thus treated, the conclusion would be that the average child exhibits three fears of loss of support within a given time and that this fear is three times as prominent as fear of noise. It can be seen that this gives a spurious picture, since fear of noise (in this illustration) actually is more "uni-

versal" than fear of loss of support. An individual child who happens to exhibit fear several times in response to a particular event distorts the totals. The greater universality of fear of noise would appear when the second method of tallying described above is used. On the basis of the latter method, in the present case, the tally for noise would be 2 as contrasted with a tally of 1 for loss of support.

It can be seen that neither procedure alone gives a complete picture of the situation. In the tables which follow, both methods of treating the results are used. It would be more justifiable to use only one method of tallying if the conditions under which fears were observed had been the same for all children, or if the number of subjects at each age level had been much larger.

In the discussion which follows, more attention will be given to the frequency of various fear situations as compared with other situations than to the question of what is the absolute frequency of each situation. In showing these comparisons, the calculations that have been applied aim to show the relative frequency of each type of situation as measured by the ratio between the number of fears exhibited in response to that situation and the total frequency of all other situations. For example, if the records show that fear was shown in response to a total of 80 situations and, within this number, fear of noise occurred 16 times, the score for noise is $16/80$ or 20 per cent.

As mentioned earlier, the number of situations in response to which fear was shown is greater than the total number of instances of fear (since some fears were due to a combination of situations each of which received a separate tally). In presenting the data, the question therefore arises whether the percentages showing the relative frequency of various situations should be calculated on the basis of total number of fears or total number of situations. In the tables that follow, the latter figures have been used. As will be seen in the tables, however, care has been taken to show in each tabulation both the total number of fears and the total number of situations, so that percentages based upon the former figure could readily be obtained if any reader should desire them for his own use. It will be seen also that the gen-

eral trend of the results would be practically the same whether the one or the other divisor is used in calculating the percentages.

In the tables which follow, the relative frequency of fear in response to various situations is shown when calculated on the basis of both methods of tallying described in an earlier paragraph, namely, the method by which a tally is given to each separate situation, whether the same child shows fear of this situation on one or several different occasions, and the method by which only one tally is given per child for one or more instances of fear in response to a certain situation.

When a tabulation is made of fears with an allowance of only one tally for one or several fears of a given type in the records of a particular child, two ratios can be derived.

First, it is possible to calculate the proportion of all fears that fall under a particular heading; second, it is possible to calculate the percentage of children who exhibited one or more fears under each heading. In the former case, the divisor is the total number of fears tallied; in the latter, the total number of children.*

Table I summarizes the results obtained from 21-day records and from other occasional records, with all age levels combined.

*The following example will illustrate the various methods of treating the data. Four children are represented by Roman numerals. Each separate fear described in each child's records is represented by a letter. Arabic numerals represent fear situations as follows: 1 is noise; 2, sudden or unexpected movements; 3, falling; 4, pain; 5, strange situation.

Original Data					
I	II	III	IV		
<i>a.</i> 1	<i>a.</i> 5	<i>a.</i> 2	<i>a.</i> 2 + 5		
<i>b.</i> 3	<i>b.</i> 4	<i>b.</i> 2	<i>b.</i> 1		
<i>c.</i> 2	<i>c.</i> 1 + 5	<i>c.</i> 1			
<i>d.</i> 1					
Summary					
		All Instances Tallied		Tally of <i>One Only</i> per Situation per Child	
		N	%	N	% of Situations
Total no. of fears		12		10	
Total no. of situations		14		11	
(1) Noise		5	36	4	36
(2) Sudden movements		4	29	3	27
(3) Falling		1	7	1	9
(4) Pain		1	7	1	9
(5) Strange situation		3	21	2	18
					50

In this table, the fears have been tallied under general headings. The general headings designated by Roman numerals represent all the data. In addition to these categories, the table contains occasional sub-totals representing even more inclusive classifications of the data. Thus a sub-total is given for all fears in which noise played a part, including items in category VII (sudden or rapidly approaching motion plus noise) and in category VIII (all other noises). A sub-total is given which includes strange objects and situations and unfamiliar variations connected with familiar objects (separately represented as categories X and XI) and strange persons, queer or masked persons, and unfamiliar variations connected with familiar persons (category XII).

When a tally is made of all instances in which fear was shown in response to a given situation the numbers shown for these sub-totals represent the sum of the numbers included in the constituent categories. This is *not* the case, however, when totals are shown on the basis of a tally of *one only* per situation per child. These totals represent the number of children who exhibited one or more fears of a given class. (For example, if a child shows one fear of strange objects and one fear of strange persons, this would add only *one* tally under the category which combines strange objects and persons.)

From Table I it can be observed that there is a high degree of correspondence between the data obtained from parents' 21-day records and the data obtained through less systematic reports from an additional group of adults. Such discrepancies as there are appear to be accounted for in part by the fact that there are relatively more younger children in the 21-day records. It can be noted also that the various situations occupy practically the same position with respect to others, whether the percentages are calculated on the basis of a separate tally of all instances of fear or a tally of one only for each situation per child. (In interpreting Table I it must be borne in mind that there is not an equal number of children at all age levels.)

The results in Table I indicate that noise* leads all other situa-

* The frequency of fears in response to the separate conditions included under the general heading of "noise," as well as the frequency of fears in other sub-categories, is shown on pages 21 to 32.

FEARS OBSERVED

41

X. Pain, persons, objects, situations inflicting or associated with pain and tactual shock. (13, 13x, 14a, b, c, 15, x, 16, x)	82	10.7	25	11	107	10.8	38	9.2	24.8
XI. Strange objects and situations and unfamiliar variations connected with familiar objects. (17, 18, 19)	58	7.6	19	8.3	77	7.7	31	7.5	20.3
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons. (20, a, 21, x, 22, x, 23, 24, 25)	92	12	19	8.3	111	11.1	46	11.1	30.1
C. Total XI-XII. <i>Strange objects, situations and persons</i>	150	19.5	38	16.7	188	18.9	59	14.2	38.6
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation). (26, x, 27, 28, 29, 30, 31)	23	2.9	20	8.8	43	4.3	18	4.1	11.1
XIV. Warning or previous threat. (32, y, 33, 34)	15	2	1	.43	16	1.6	10	2.4	6.5
D. Total IX, XIII, XIV. <i>Harm, danger of bodily injury, falling</i>	96	12.5	44	19.3	140	14	52	12.3	33.3
XV. Signs of fear in others. (35)	5	.65	5	2.2	10	1	5	1.2	3.3
XVI. Danger of loss of property. (36)	1	.13	0	0	1	.1	1	.24	.05
XVII. Fears arising during dreams. (37)	7	.91	3	1.3	10	1	6	1.4	3.9
XVIII. Ridicule, failure, personal inadequacy. (38, 39)	6	.78	1	.43	7	.7	2	.48	1.3
XIX. Robbers, kidnappers, etc., also death and dying (no immediate danger). (40, 41, 42) ...	2	.26	2	.87	4	.4	2	.48	1.3
XX. The dark and being alone in dark. (43) ...	24	3.1	7	3.1	31	3.1	15	3.6	9.8
XXI. Being alone or abandoned by parent. (44, 45)	19	2.5	15	6.6	34	3.4	14	3.5	9.2
XXII. The dark or being alone plus expressed fear of imaginary creatures. (46, 46a, 47, 47a)	13	1.8	1	.43	14	1.4	7	1.7	4.6
E. Total XX, XXI, XXII. <i>Dark, alone, and imaginary creatures when alone or in dark</i>	56	7.3	23	10.1	79	7.9	31	7.5	20.3
XXIII. Imaginary creatures (apart from darkness or being alone). (48, 49, x)	18	2.3	3	1.3	21	2.1	12	2.9	7.8
F. Total XXII-XXIII. <i>Imaginary creatures</i> ...	31	4	4	1.8	35	3.5	18	4.3	11.8
G. Total XVII-XXIII. <i>Dreams, ridicule, death, robbers, etc., dark, alone, imaginary creatures</i> ...	89	11.6	32	14	121	12.2	47	11.3	30.7

tions in provoking fear. In the 21-day records, noise was a factor in 22 per cent of the situations producing fear. In the records submitted by adults who did not make systematic observations, noise was a factor in 17 per cent of the situations. (The reason for the lower frequency of noise in the latter records appears to be due in part to the fact that they represented relatively older children than did the 21-day records. As will be shown in later tables, there is a tendency for fear of noise to appear less frequently as children grow older.) In the 21-day records, fear of noise was exhibited once or several times by almost half the children (46 per cent).

Fear of animals comes next in frequency, representing 15 per cent of all situations in the 21-day records, and 38 per cent of all the children included in these records.

Fear of strange or unfamiliar persons, whether active or inactive, and of queer, deformed, or masked persons stands third in frequency, representing 12 per cent of all fears in the 21-day records and 30 per cent of the children. When the categories including strange persons and strange objects and situations are combined the corresponding figures are 20 and 39 per cent, respectively.

Events producing pain or associated with pain or tactual shock constitute the next large group of fears, including 11 per cent of all situations in the 21-day records, and representing 25 per cent of the children. Fear of falling and loss of support (with respective percentages of 7.5 and 23) and fear of strange objects or situations considered apart from strange persons (with respective percentages of 7.6 and 20) constitute the next large groups of fears.

Sudden or unexpected movements account for 4.2 per cent of the fear situations, and produced fear in 11 per cent of the children in the 21-day records. When all events containing an element of sudden or rapid visual stimulation are considered together (including the addition of lights, flashes, shadows, reflections, rapidly approaching or passing objects, and sudden or rapid motions accompanied by noise) this entire group ranks about the same as each of the separate categories of pain and of strange objects or situations (within the 21-day records, this

group includes 7.8 per cent of all situations, and represents 20.3 per cent of the children).

The remaining categories each include only a small percentage of the fears. As will be noted in later tables, several of these categories are represented more frequently at higher age levels when the children are grouped according to age. Even so, however, when a rough classification is made of all fears in which there appears to be a distinct imaginative or anticipatory element—as distinct from a specific and concrete stimulus, such as a noise, a strange person, or a concrete pain stimulus—the number of fears in such a classification is relatively large. When all fears under the heading of dreams, ridicule, and personal inadequacy, death and dying (in the absence of any specific danger), kid-nappers, etc. (when no such characters actually are present), the dark, being alone, and imaginary creatures are tallied as a whole, they constitute 12 per cent of all fear situations, and represent 31 per cent of the children included in the 21-day records.

In Table II fears are tabulated according to yearly age levels from birth to the age of five years; because of the limited number of cases above the age of five years, children older than five are grouped together.*

In Table II the data are treated on the basis of a tally for each separate instance of fear, whether or not fear in response to the same type of situation was shown once or several times in the case of a single child. Tables III and IV give comparisons between children at different age levels when the data were tabulated on the basis of only one tally per child for one or several fears of the same class. These tables represent only the data obtained in the 21-day records; the data obtained from adults who did not keep systematic records over a constant period of time are omitted, for obvious reasons.†

* Another table, based on the results given in Table II, was prepared to show the *relative* frequency of each type of situation as compared with other situations at various age levels. This table is on file (see note on page 34).

† Other tables, as follows, were prepared and are on file but are not reproduced here: One table shows a tally of all fears (submitted by parents who kept records for 21 days) when tabulated according to half-yearly age levels, and separately for boys and girls, on the basis of a separate count of each fear reported; another table shows a similar tabulation based upon a tally of one only for one or several fears (per child) within the same class.

TABLE

Frequency of Fear in Various Situations as Described (a) by Parents Who Keep Occasional Records and (c) by Both Groups Combined, Tabulated at Yearly Age Instances of Fear in the Case of Each Child, Whether the Child Showed Fear On

SITUATIONS IN RESPONSE TO WHICH FEAR WAS SHOWN	21-DAY RECORDS						
	0-11	12-23	24-35	36-47	48-59	60-97	All
Age in months	0-11	12-23	24-35	36-47	48-59	60-97	All
Number of children	8	23	45	46	22	9	153
Total number of fears	45	147	251	160	76	31	710
Total number of situations in response to which fear was shown	50	158	283	166	81	31	769
I. Animals (not including imaginary animals)	2	12	41	45	17	0	117
II. Specific objects and situations not described as strange (cause unknown)	1	4	5	2	0	9	12
III. Sudden unexpected movements	2	1	23	4	2	0	32
IV. Lights, flashes, shadows, reflections	1	2	7	1	0	0	11
V. Sudden disappearance of persons	0	0	2	0	0	0	2
VI. Rapidly approaching or passing objects (distinct from noise)	0	0	0	1	0	0	1
VII. Sudden or rapidly approaching motion plus noise	3	1	7	2	1	0	14
A. Total III-VII. Sudden, rapid motions, lights, flashes, shadows, reflections	6	4	39	8	3	0	60
VIII. Noises and events feared by reason of previous association with noise	18	32	65	34	8	0	157
B. Total VII-VIII. Noises, events associated with noise, and noise plus motion	21	33	72	36	9	0	171
IX. Falling, heights, danger of falling, sudden or gradual displacement	5	23	16	11	3	0	58
X. Pain, persons, objects, situations inflicting or as- sociated with pain and tactual shock	7	30	12	13	8	1	82
XI. Strange objects and situations and unfamiliar variations connected with familiar objects	4	18	27	5	4	0	58
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons	7	23	35	22	3	2	92
C. Total XI and XII. Strange objects, situations and persons	11	41	62	27	7	2	150
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation)	0	0	2	11	8	2	23
XIV. Warning or previous threat	0	1	7	2	2	3	15
D. Total IX, XIII, XIV. Harm, danger of bodily injury, falling	5	24	25	24	13	5	96
XV. Signs of fear in others	0	0	2	1	2	0	5
XVI. Danger of loss of property	0	0	0	1	0	0	1
XVII. Fears arising during dreams	0	0	3	0	3	1	7
XVIII. Ridicule, failure, personal inadequacy	0	0	0	0	0	6	6
XIX. Robbers, kidnappers, etc., also death and dying (no immediate danger)	0	0	0	0	1	1	2
XX. The dark and being alone in dark	0	4	7	5	6	2	24
XXI. Being alone or abandoned by parent	0	4	4	4	6	1	19
XXII. The dark or being alone plus expressed fear of imaginary creatures	0	0	10	1	2	0	13
E. Total XX, XXI, XXII. Dark, alone, and im- aginary creatures when alone or in dark	0	8	21	10	14	3	56
XXIII. Imaginary creatures (apart from darkness or being alone)	0	3	8	1	5	1	18
F. Total XXII-XXIII. Imaginary creatures	0	3	18	2	7	1	31
G. Total XVII-XXIII. Dreams, ridicule, death, rob- bers, etc., dark, alone, imaginary creatures	0	11	32	11	23	12	89

FEARS OBSERVED

45

II

Daily Records for 21 Days and (b) by an Additional Group of Adults Who Kept Levels According to General Categories. The Figures Represent a Tally of All ly Once or on Several Different Occasions in Response to a Similar Situation.

OTHER OCCASIONAL RECORDS							21-DAY RECORDS AND OCCASIONAL RECORDS COMBINED						
0-11	12-23	24-35	36-47	48-59	60-120	All	0-11	12-23	24-35	36-47	48-59	60-120	All
11	16	26	41	14	21	129	19	39	71	87	36	30	282
24	26	32	61	17	30	190	69	173	283	221	93	61	900
26	34	37	73	21	37	228	76	192	320	239	102	68	997
1	3	5	15	2	4	30	3	15	46	60	19	4	147
2	0	1	1	1	2	7	3	4	6	3	1	2	19
3	0	0	1	1	0	5	5	1	23	5	3	0	37
0	1	1	0	0	0	2	1	3	8	1	0	0	13
0	1	0	0	0	0	1	0	1	2	0	0	0	3
0	0	0	0	0	0	0	0	0	0	1	0	0	1
0	0	0	0	0	0	0	3	1	7	2	1	0	14
3	2	1	1	1	0	8	9	6	40	9	4	0	68
11	7	4	10	3	4	39	29	39	69	44	11	4	196
11	7	4	10	3	4	39	32	40	70	46	12	4	210
3	3	2	9	3	3	23	8	26	18	20	6	3	81
2	9	6	5	3	0	25	9	39	18	18	11	12	107
0	7	6	5	0	1	19	4	25	33	10	4	1	77
4	2	4	6	0	3	19	11	25	39	28	3	5	111
4	9	10	11	0	4	38	15	50	72	38	7	6	188
0	0	2	3	2	13	20	0	0	4	14	10	15	43
0	0	1	0	0	0	1	0	1	8	2	2	3	16
3	3	5	12	5	16	44	8	27	30	36	18	21	140
0	0	1	1	2	1	5	0	0	3	2	4	1	10
0	0	0	0	0	0	0	0	0	0	1	0	0	1
0	0	1	1	0	1	3	0	0	4	1	3	2	10
0	0	0	0	0	1	1	0	0	0	0	0	7	7
0	0	0	2	0	0	2	0	0	0	2	1	1	4
0	1	0	5	1	0	7	0	5	7	10	7	2	31
0	0	2	8	2	3	15	0	4	6	12	8	4	34
0	0	0	1	0	0	1	0	0	10	2	2	0	14
0	1	2	14	3	3	23	0	9	23	24	17	6	79
0	0	1	0	1	1	3	0	3	9	1	6	2	21
0	0	1	1	1	1	4	0	3	19	3	8	2	35
0	1	4	17	4	6	32	0	12	36	28	27	18	121

TABLE

Frequency and Relative Frequency of Fear in Response to Various Situations,
Representing Results Obtained When a Tally of One Only Was

SITUATION IN RESPONSE TO WHICH FEAR WAS SHOWN		NUMBER OF FEARS					
Age in months	0-11	12-23	24-35	36-47	48-59	60-97	All
Number of children	8	23	45	46	22	9	153
Number of fears	25	75	151	99	49	17	410
I. Animals (not including imaginary animals)	2	8	18	21	9	0	58
II. Specific objects and situations not described as strange (cause unknown)	1	2	4	2	0	0	9
III. Sudden unexpected movements	2	1	10	3	1	0	17
IV. Lights, flashes, shadows, reflections	1	2	4	1	0	0	8
V. Sudden disappearance of persons	0	0	2	0	0	0	2
VI. Rapidly approaching or passing objects (distinct from noise)	0	0	0	1	0	0	1
VII. Sudden or rapidly approaching motion plus noise	2	1	6	2	1	0	12
A. Total III-VII. Sudden, rapid motion, lights, flashes, shadows, reflections	2	4	17	6	2	0	31
VIII. Noises and events feared by reason of previous association with noise	6	14	25	17	5	0	67
B. Total VII-VIII. Noises, events associated with noise, and noise plus motion	6	14	26	19	6	0	71
IX. Falling, heights, danger of falling, sudden or gradual displacement	3	8	15	6	3	0	35
X. Pain, persons, objects, situations inflicting or associated with pain and tactual shock	2	12	9	7	3	5	38
XI. Strange objects and situations and unfamiliar variations connected with familiar objects	2	9	13	3	4	0	31
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons	4	9	17	12	3	1	46
C. Total XI-XII. Strange objects, situations and persons	4	12	24	14	4	1	59
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation)	0	0	2	10	5	1	18
XIV. Warning or previous threat	0	1	4	2	1	2	10
D. Total IX, XIII, XIV. Harm, danger of bodily injury, falling	3	8	15	16	7	3	52
XV. Signs of fear in others	0	0	2	1	2	0	5
XVI. Danger of loss of property	0	0	0	1	0	0	1
XVII. Fears arising during dreams	0	0	3	0	2	1	6
XVIII. Ridicule, failure, personal inadequacy	0	0	0	0	0	2	2
XIX. Robbers, kidnappers, etc., also death and dying (no immediate danger)	0	0	0	0	1	1	2
XX. The dark and being alone in dark	0	2	5	4	2	2	15
XXI. Being alone or abandoned by parent	0	3	4	4	2	1	14

FEARS OBSERVED

47

III

Based upon Data Obtained from Parents Who Kept Records for 21 Days, and Allowed per Child for *One or Several* Fears of the Same Class

PER CENT OF FEARS OCCURRING IN EACH SITUATION						
0-11	12-23	24-35	36-47	48-59	60-97	All
8 25	23 75	45 151	46 99	22 49	9 17	153 416
8	10.7	11.9	21.5	18.4	0	14
4	2.7	2.6	2	0	0	2.2
8	1.3	6.6	3.1	2	0	4.1
4	2.7	2.6	1	0	0	1.9
0	0	1.3	0	0	0	.48
0	0	0	1	0	0	.24
8	1.3	4.0	2	2	0	2.9
8	5.3	11.3	6.1	4.1	0	7.5
24	18.7	16.6	17.3	10.2	0	16.1
24	18.7	17.2	19.4	12.2	0	17.1
12	10.7	9.9	6.1	6.1	0	8.4
8	16	6	7.1	6.1	29.4	9.2
8	12	8.6	3.1	8.2	0	7.5
16	12	11.3	12.2	6.1	5.9	11.1
16	16	15.9	14.3	8.2	5.9	14.2
0	0	1.3	10.1	10.2	5.9	4.3
0	1.3	2.6	2	2	11.8	2.4
12	10.7	9.9	16.2	14.3	17.6	12.5
0	0	1.3	1	4.1	0	1.2
0	0	0	1	0	0	.24
0	0	2	0	4.1	5.9	1.4
0	0	0	0	0	11.8	.48
0	0	0	0	2	5.9	.48
0	2.7	3.3	4.1	4.1	11.8	3.6
0	4	2.6	4.1	4.1	5.9	3.5

TABLE III

SITUATION IN RESPONSE TO WHICH FEAR WAS SHOWN	NUMBER OF FEARS						
	0-11	12-23	24-35	36-47	48-59	60-97	All
Age in months	0-11	12-23	24-35	36-47	48-59	60-97	All
Number of children	8	23	45	46	22	9	153
Number of fears	25	75	151	99	49	17	416
XXII. The dark or being alone plus expressed fear of imaginary creatures	0	0	4	1	2	0	7
E. Total XX, XXI, XXII. Dark, alone, and imaginary creatures when alone or in dark ..	0	5	11	9	4	2	31
XXIII. Imaginary creatures (apart from darkness or being alone)	0	3	4	1	3	1	12
F. Total XXII, XXIII. Imaginary creatures ..	0	3	7	2	5	1	18
G. Total XVII-XXIII. Dreams, ridicule, death, robbers, etc., dark, alone, imaginary creatures	0	7	16	9	10	5	47

All the tables show a number of general trends in the relative frequency of various fears at different age levels. Although there are no abrupt changes from one year to the next, some of these trends are quite marked.

The tables indicate that fears of noise and events associated with noise decline as children grow older. There is also a decline, although not a regular one, in the relative frequency of fear of strange objects, situations, and persons. In contrast with this, fear of animals becomes progressively more frequent up to the age of four years, with a slight drop at the age of four, and a decline thereafter. Fear of the dark and fear of being alone, as well as practically all fears of an imaginative or anticipatory character, tend to increase with age. When all the latter fears are tallied as a group—including fears arising in dreams, fear of ridicule, of death and dying, of robbers, etc., of the dark, of being alone, and of imaginary creatures—there is a marked increase with age, from 0 per cent during the first year of life to 27 per cent at the age of four years (including both 21-day and occasional records). There is a corresponding rise from 0 to 39 per cent when a tally is made of the number of children showing one or more fears of this character in the 21-day records. There is likewise a rise with age in the frequency of fear in response to situations classified under the heading of "harm," including threats or danger of drowning, fire, assault, confinement, and

(Concluded)

PER CENT OF FEARS OCCURRING IN EACH SITUATION						
0-11	12-23	24-35	36-47	48-59	60-97	All
8	23	45	46	22	9	153
25	75	151	99	49	17	416
0	0	2.6	1	4.1	0	1.7
0	6.7	7.3	9.2	8.2	11.8	7.5
0	4	2.6	1	6.1	5.9	2.9
0	4	4.6	2	10.2	5.9	4.3
0	9.3	10.6	9.2	20.4	29.4	11.3

traffic accidents, as distinguished from specific pain stimuli and falling or loss of support.

There is a decline with age in the frequency of fear of falling. There is a decline with age in the frequency of fear of specific objects and situations (not strange or unfamiliar, reason unknown). There is an irregular decline with age in fear of sudden or unexpected movements.

The changes in fear with age stand out more clearly when children are grouped according to two-yearly age intervals. A tabulation based upon this grouping appears in Table V (pages 52-53).

In Figures A, B, and C (pages 54-56), the relative frequency of various fear situations at bi-yearly age levels is shown in graphic form. The curves are based upon the results shown in Table V. Each figure is shown in two sections, both on the same scale, to avoid the confusion that would arise from too many intersecting lines.

For the purpose of showing certain trends within broad classifications of the data as well as trends within more restricted categories, some curves that are based upon overlapping data are shown in Figures A, B, and C. The curve for "noise" represents not only all proximate and remote vocal or mechanical noises or agents or objects associated with noise, but also the limited number of items classed under the heading of "noise plus rapid or

TABLE

Percentage of Children at Each Yearly Age Level Showing One or More Fears in
Records for Periods

Separate percentages are given to represent (a) all children for whom reports were
or more fears while the records were being taken.

SITUATIONS IN RESPONSE TO WHICH FEAR WAS SHOWN	PERCENTAGE	BASED ON ALL AT EACH AGE	
Age in months	0-11	12-23	24-35
Number of children	8	23	45
Number of children with one or more fears	6	19	41
Total number of situations recorded	25	75	151
I. Animals (not including imaginary animals)	25	34.7	40
II. Specific objects and situations not described as strange (cause unknown)	12.5	8.7	8.9
III. Sudden unexpected movements	25	4.5	22.2
IV. Lights, flashes, shadows, reflections	12.5	8.7	8.9
V. Sudden disappearance of persons	0	0	4.4
VI. Rapidly approaching or passing objects (distinct from noise)	0	0	0.0
VII. Sudden or rapidly approaching motion plus noise	25	4.5	13.3
A. Total VI-VII. Sudden, rapid motion, lights, flashes, shadows, reflections	25	17.4	37.8
VIII. Noises and events feared by reason of previous association with noise	75	60.9	55.6
B. Total VII-VIII. Noises, events associated with noise, and noise plus motion	75	60.9	57.8
IX. Falling, heights, danger of falling, sudden or gradual dis- placement	37.5	34.8	33.3
X. Pain, persons, objects, situations inflicting or associated with pain and tactual shock	25	52.2	20
XI. Strange objects and situations and unfamiliar variations connected with familiar objects	25	39.1	28.9
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons	50	39.1	37.8
C. Total XI-XII. Strange objects, situations and persons	50	52.2	53.3
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation)	0	0	4.4
XIV. Warning or previous threat	0	4.5	8.9
D. Total IX, XIII, XIV. Harm, danger of bodily injury, falling	37.5	34.8	33.3
XV. Signs of fear in others	0	0	4.4
XVI. Danger of loss of property	0	0	0
XVII. Fears arising during dreams	0	0	6.7
XVIII. Ridicule, failure, personal inadequacy	0	0	0
XIX. Robbers, kidnappers, etc., also death and dying (no im- mediate danger)	0	0	0
XX. The dark and being alone in dark	0	8.7	11.1
XXI. Being alone or abandoned by parent	0	13	8.9
XXII. The dark or being alone, plus expressed fear of imaginary creatures	0	0	8.9
E. Total XX, XXI, XXII. Dark, alone, and imaginary creatures when alone or in dark	0	21.7	24.4
XXIII. Imaginary creatures (apart from darkness or being alone)	0	13	8.9
F. Total XXII-XXIII. Imaginary creatures	0	13	15.6
G. Total XVII-XXIII. Dreams, ridicule, death, robbers, etc., dark, alone, imaginary creatures	0	30.4	35.6

IV

Each of Various Situations, Based upon Data Obtained from Parents Who Kept of 21 Days.
submitted and (b) only the number of children within each group who exhibited one

CHILDREN LEVEL				PERCENTAGES BASED UPON NUMBER OF CHILDREN SHOWING ONE OR MORE FEARS AT EACH AGE						
36-47	48-59	60-97	All	0-11	12-23	24-35	36-47	48-59	60-97	All
46	22	9	153	8	23	45	46	21	9	153
42	20	7	135	6	19	41	42	20	7	135
99	49	17	416	25	75	151	99	49	17	416
45.7	40.9	0	37.9	33.3	42.1	43.9	50	45	0	43
4.3	0	0	5.9	16.7	10.5	9.8	4.8	0	0	6.7
6.5	4.5	0	11.1	33.3	5.3	24.4	7.1	5	0	12.6
2.2	0	0	5.2	16.7	10.5	9.8	2.4	0	0	5.9
0	0	0	1.3	0	0	4.9	0	0	0	1.5
2.2	0	0	.65	0	0	0	2.4	0	0	.74
4.5	4.5	0	7.8	33.3	5.3	14.6	4.8	5	0	8.9
13.	9.1	0	20.3	33.3	21.1	41.5	14.3	10	0	23
37	22.7	0	43.8	100	73.7	61	40.5	25	0	49.6
41.3	27.3	0	46.4	100	73.7	63.4	45.2	30	0	52.6
13	13.6	0	22.9	50	42.1	36.6	14.3	15	0	25.9
15.2	13.6	55.5	24.8	33.3	63.2	22.5	16.7	15	71.4	28.1
6.5	18.2	0	20.3	33.3	47.4	31.7	7.1	20	0	23
26.1	13.6	11.1	30.1	66.6	47.4	41.5	28.6	15	14.3	34.1
30.4	18.2	11.1	38.6	66.6	63.2	58.5	33.3	20	14.3	43.7
21.7	22.7	11.1	11.8	0	0	4.9	23.8	25	14.3	13.3
4.3	4.5	22.2	6.5	0	5.3	9.8	4.8	5	28.6	7.4
34.8	31.8	33.3	34	50	42.1	36.6	38.1	35	42.9	38.5
2.2	9.1	0	3.3	0	0	4.9	2.4	10	0	3.7
2.2	0	0	.65	0	0	0	2.4	0	0	.74
0	9.1	11.1	3.9	0	0	7.3	0	10	14.3	4.4
0	0	22.2	1.3	0	0	0	0	0	28.6	1.5
0	4.5	11.1	1.3	0	0	0	0	5	14.3	1.5
8.7	9.1	22.2	9.8	0	10.5	12.2	9.5	10	28.6	11.1
8.7	9.1	11.1	9.2	0	15.8	9.8	9.5	10	14.3	10.4
2.2	9.1	0	4.6	0	0	9.8	2.4	10	0	5.2
19.6	18.2	22.2	20.3	0	26.3	26.8	21.4	20	28.6	23
2.2	13.6	11.1	7.8	0	15.8	9.8	2.4	15	14.3	8.9
4.3	22.7	11.1	11.8	0	15.8	17.1	4.9	25	14.3	13.3
19.6	45.5	55.5	30.7	0	36.8	39	21.4	50	71.4	34.8

CHILDREN'S FEARS

TABLE V

Relative Frequency of Fears at Various Ages When Children Are Grouped According to Bi-yearly Age Levels

The table shows percentages obtained (a) when a separate tally was given to each instance of fear, (b) when a tally was made of a number of children showing one or more fears in response to a given situation.

SITUATIONS IN RESPONSE TO WHICH FEAR WAS SHOWN	21-DAY AND OCCASIONAL RECORDS COMBINED						21-DAY RECORDS ONLY					
	The percentages are based on a tally of all instances of fear.						The percentages are based on a tally of only one per child for one or several fears of the same class.					
Age in months	0-23	24-47	48-71	72-85	86-109	110-129	0-23	24-47	48-71	72-85	86-109	110-129
Number of children	58	138	47	47	24	24	31	91	24	31	91	24
I. Animals (not including imaginary animals)	6.7	18.6	17.3				10	15.7	16.7	32.3	42.9	37.5
II. Specific objects and situations not described as strange (cause unknown)												
III. Sudden unexpected movements	2.6	1.6	.78				3	2.4	0	9.7	6.6	0
IV. Lights, flashes, shadows, reflections	2.2	5	2.4				3	5.2	1.9	9.7	14.3	4.2
V. Sudden disappearance of persons	1.5	1.6	0				3	2	0	9.7	5.5	0
VI. Rapidly approaching or passing objects (distinct from noise)	.37	.35	0				0	.8	0	0	2.2	0
VII. Sudden or rapidly approaching motion, plus noise	0	1.7	0				0	.4	0	0	1.1	0
A. Total III-VII. Sudden, rapid motion, lights, flashes, shadows, reflections	1.5	1.6	.78				3	3.2	1.9	9.7	8.8	4.2
VIII. Noises and events feared by reason of previous association with noise	5.6	8.8	3.1				6	9.2	3.7	19.6	25.3	8.3
B. Total VII-VIII. Noises, events associated with noise, and noise plus motion	25.4	20.3	9.4				20	16.9	9.3	64.5	46.2	20.8
	26.9	21.9	10.2				20	18.1	11.1	64.5	49.5	25

FEARS OBSERVED

53

IX. Falling, heights, danger of falling, sudden or gradual displacement	12.7	6.8	4.7	11	8.4	5.6	35.5	23.1	12.5
X. Pain, persons, objects, situations inflicting or associated with pain and tactual shock									
XI. Strange objects and situations and unfamiliar variations connected with familiar objects	17.9	6.5	8.7	14	6.4	7.4	45.2	17.6	16.7
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons	10.8	7.7	3.9	11	6.4	7.4	35.5	17.6	16.7
C. <i>Total XI-XII. Strange objects, situations and persons</i>	13.4	12	3.9	13	11.6	5.6	41.9	31.9	12.5
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation)	24.3	19.7	7.9	16	15.3	7.4	51.6	41.8	16.7
XIV. Warning or previous threat	0	3.2	14.2	0	4.4	9.3	0	12.1	20.8
D. <i>Total IX, XIII, XIV. Harm, danger of bodily injury, falling</i>	.37	1.8	1.6	1	2.4	1.9	3.2	6.6	4.2
XV. Signs of fear in others	13.1	12.2	20.5	11	12	13	35.5	33	20.2
XVI. Danger of loss of property	0	.89	3.9	0	1.2	3.7	0	3.3	8.3
XVII. Fears arising during dreams	0	.17	0	0	.4	0	0	1.1	0
XVIII. Ridicule, failure, personal inadequacy	0	.89	3.9	0	1.2	5.6	0	3.3	12.5
XIX. Robbers, kidnappers, etc., also death and dying (no immediate danger)	0	0	0	0	0	0	0	0	0
XX. The dark and being alone in dark	0	.35	.78	0	0	1.9	0	0	4.2
XXI. Being alone or abandoned by parent	1.9	3.1	6.3	2	3.6	5.6	6.5	10	12.5
XXII. The dark or being alone, plus expressed fear of imaginary creatures	1.5	3.2	9.4	3	3.2	5.6	9.7	8.8	12.5
E. <i>Total XX, XXI, XXII. Dark, alone and imaginary creatures when alone or in dark</i>	0	2.2	1.6	0	2	3.7	0	5.5	8.3
XXIII. Imaginary creatures (apart from darkness or being alone)	3.4	8.4	17.3	5	8	9.3	16.1	22	20.8
F. <i>Total XXII-XXIII. Imaginary creatures</i>	1.1	1.8	6.3	3	2	7.4	9.7	5.5	16.7
G. <i>Total XVII-XXIII. Dreams, ridicule, death, robbers, etc., dark, alone, imaginary creatures</i>	1.1	3.9	7.9	3	3.6	11.1	9.7	10	25
	4.5	11.5	28.3	7	10	22.2	22.6	27.5	50

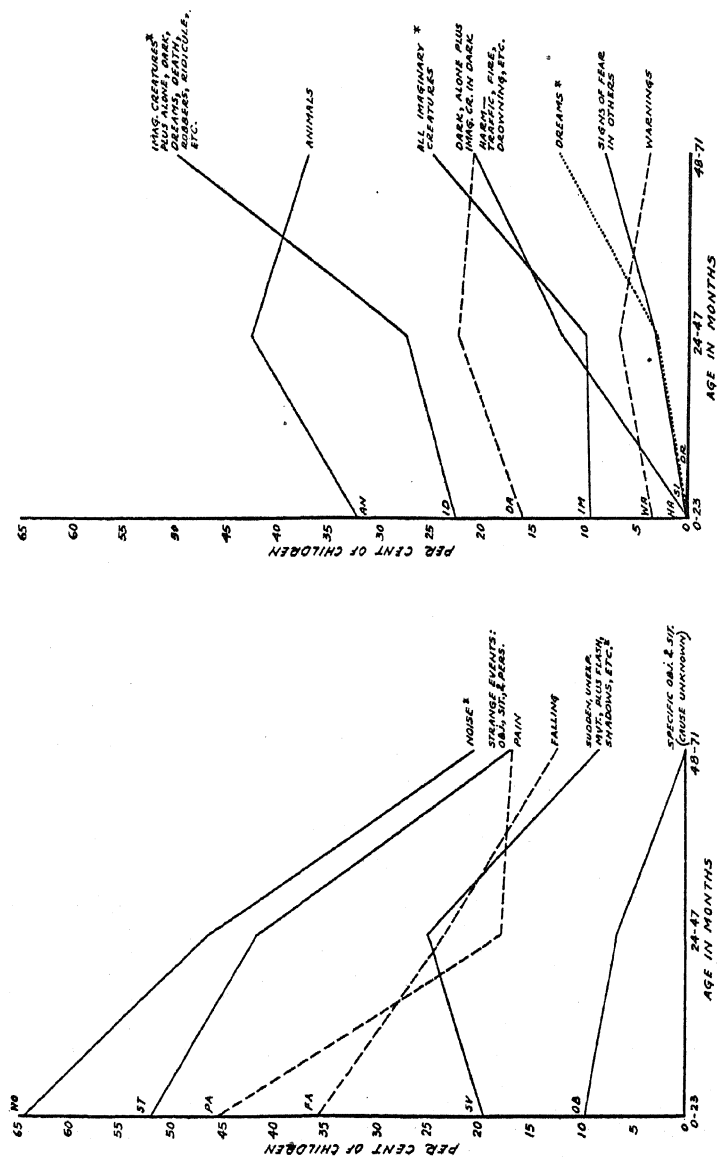


FIGURE C.—Percent of children at bi-yearly age levels showing one or more fears in response to various situations. Categories that overlap are starred. See accompanying key for description of categories. This figure is based upon 21-day records, including 31, 91, and 24 cases at the respective age levels.

See pages 57 and 58 for key

sudden or unexpected movement." Items under the latter heading are also represented in the curve showing fears in response to sudden or rapid or unexpected movements (apart from noise) plus fears in response to flashes, shadows, and reflections.

In the right-hand section of each figure a curve is shown for the percentages obtained when the categories of imaginary creatures, the dark, being alone, imaginary creatures in the dark, dreams, ridicule, fear of death (apart from any specific danger), and of vicious characters (apart from concrete presence of robbers, kidnappers, etc.) are combined. Another curve represents fears of imaginary creatures, whether shown in connection with darkness or being alone, or apart from either of these two conditions. Darkness and being alone plus fear of imaginary creatures specifically mentioned by the child in connection with darkness or solitude (but not imaginary creatures mentioned apart from these conditions) are also represented by a separate curve, as is the independent category of fears arising in connection with dreams. The graphs omit subjects who were over five years old.

For convenience in reading the graphs, a summary of the data represented in each curve is given below.

Key to Figures A, B, and C

- No. Noise, proximate or remote, mechanical or vocal, and agents or objects associated with noise, plus instances of fear of events combining noise and sudden, rapid, or unexpected movement.
- St. Strange, unfamiliar objects, persons or situations; queer, deformed, or ancient persons; also unfamiliar variations connected with otherwise familiar (and non-feared) objects or persons (this category does not include events feared because of previous noise, pain, sudden movement, or other factors which are represented in independent categories).
- Pa. Painful objects, persons, situations, including also medical situations, objects, persons, or events inflicting or associated with infliction of a specific experience of pain, corporal punishment, or tactual shock.
- Fa. Falling, loss of support, danger of falling, high or insecure places, or events associated with falling or danger of loss of support.
- Ob. Specific objects or situations, not described as feared because of strangeness or novelty and not described as having been associated with noise, pain, falling, or other independent events; reason for fear not indicated.
- Sv. Sudden, rapid, or unexpected movement, plus flashes, reflections, sudden disappearance of persons; also, fear of events combining noise and sudden, rapid, or unexpected motion.
- An. Animals, active or inactive, aggressive or passive.

- ID. Imaginary or anticipatory fears, appearing in absence of a concrete, independent fear-inspiring stimulus such as noise, falling, etc., or specific threat of danger, and including imaginary creatures (feared in connection with or apart from darkness or solitude), fear of ridicule (not actually being administered), fears arising during dreams, fear of death, robbers, etc. (apart from immediate danger of death or presence of vicious characters), fear of being alone, in the dark, or of being abandoned.
- Im. Imaginary creatures, feared in connection with or apart from the factors of darkness or being alone.
- Wa. Fear of events in response to verbal warnings by others.
- Ha. Fear in response to real or imagined possibility of danger of bodily injury or assault (apart from noise, falling, and specific infliction of pain), and including fear of such events as drowning, fire, traffic accidents, specific threats of being shot, assaulted, abducted, or imprisoned.
- Da. Being in the dark, alone, or alone in the dark, plus fear of imaginary creatures mentioned specifically in connection with darkness or solitude.
- Si. Fear shown following, but not before, the exhibition of signs of fear in others.
- Dr. Fears arising during dreams, as revealed by the child through outcries during sleep and explanations upon awakening.

The three separate representations of the data shown in Figures A, B, and C all exhibit the same trends. Figure C, which represents the per cent of children showing fear, reflects the previously noted fact that the older children in this study exhibited somewhat fewer fears than did the younger children.

The main trends shown in these graphs may be summarized as follows: as the child grows older, there is a decline in the frequency of his fear of such concrete and specific events as noise, pain, strange objects, persons or situations, the possibility of falling or loss of support, and sudden or unexpected movements. The improvement in ability and the increased experience that come with age apparently render the child immune to fear of many concrete events that previously baffled him and found him without an adequate response. In contrast with this, as the child grows older he becomes susceptible to many events that earlier were unmeaningful to him; he shows more fears of an imaginary and anticipatory character. In addition, fear of animals remains high in frequency during preschool years.

CHAPTER IV

SEX DIFFERENCES

FROM Table VI a comparison can be made of the trends in the fears of boys and girls. The table shows tendencies when children of the same sex of all ages are grouped together and when they are grouped according to bi-yearly age levels.

On the whole, the resemblances between boys and girls are a good deal more outstanding than the differences. There is little difference between the average number of fears of boys and girls. In the first large category—fear of animals—there is no significant difference in the percentages. A larger percentage of boys than of girls have fears under the heading of sudden, unexpected movements, lights, flashes, etc., but when a tally is made of all instances of fear and when different age levels are considered separately, the trend is not consistent. There is no significant sex difference in frequency of fears in response to noise.

Boys lead girls in the frequency of fear of falling, both in the relative frequency of instances of fear and in the proportion of children exhibiting fear. Boys also lead in this fear at each bi-yearly age level. The differences here, however, although consistent, are not great.

There is little difference between the sexes in the frequency of fear in response to pain.

A greater percentage of girls than of boys exhibit fear of strange objects and situations, but the difference is not consistent at the various age levels, and is not large when a tally is made of all instances of fear. Girls also exhibit more fear of strange persons, both in terms of the proportion of children showing one or more fears of this character and in terms of a tally of all instances of such fears. This difference is not, however, consistently shown at the various bi-yearly age levels.

TABLE

Comparisons between Boys and Girls with Respect to Relative Frequency of Fear of All Instances of Fear and (2) a Tally of the Number of Children Showing One or Situations and (b) the Percentage of Children

The table shows comparisons when all children of the same sex within the 21-day levels from birth to the age of five years (with children above 5 years omitted). Boys

SITUATION IN RESPONSE TO WHICH FEAR WAS SHOWN	(1) PERCENTAGE BASED UPON SEPARATE TALLY OF ALL INSTANCES OF FEAR							
	0-97		0-23		24-47		48-71	
Age in months	B	G	B	G	B	G	B	G
Number of cases	85	68	16	15	55	36	11	13
Number of situations	410	353	120	88	236	213	38	48
I. Animals (not including imaginary animals) ..	14.9	15.6	9.2	3.4	20	18.3	10.5	27.1
II. Specific objects and situations not described as strange (cause unknown)	1.7	1.4	3.3	1.1	1.3	1.9	0	0
III. Sudden unexpected movements	2.7	5.9	2.5	1.1	3.4	8.2	0	4.2
IV. Lights, flashes, shadows, reflections	1.9	.84	1.7	1.1	2.6	.93	0	0
V. Sudden disappearance of persons .....	.24	.28	0	0	.42	.46	0	0
VI. Rapidly approaching or passing objects (dis- tinct from noise) .....	.24	0	0	0	.42	0	0	0
VII. Sudden or rapidly approaching motion plus noise	2.7	.84	3.3	0	2.6	1.4	2.6	0
A. Total III-VII. <i>Sudden, rapid motion, lights, flashes, shadows, reflections</i>	7.7	7.9	7.5	1.1	9.4	11.7	2.6	4.2
VIII. Noises and events feared by reason of previous association with noise	21	19.8	23.3	25	23.8	20.2	7.9	10.4
B. Total VII-VIII. <i>Noises, events associated with noise, and noise plus motion</i>	23.6	20.7	26.7	25	26.4	21.6	10.5	10.4
IX. Falling, heights, danger of falling, sudden or gradual displacement	8	7.1	10.8	17	7.7	4.2	5.3	2.1
X. Pain, persons, objects, situations inflicting or associated with pain and tactual shock	11.6	9.6	15	21.6	8.1	2.8	2.6	16.7
XI. Strange objects and situations and unfamil- iar variations connected with familiar objects	7.5	7.6	13.3	6.8	5.5	8.2	5.3	4.2
XII. Strange active or inactive persons, queer people, masked persons, unfamiliar variations connected with familiar persons	8.7	15.9	10.8	19.3	8.1	17.8	5.3	2.1
C. Total XI-XII. <i>Strange objects, situations and persons</i>	16.1	23.5	24.2	26.1	13.6	26.8	10.5	4.2
XIII. Bodily harm or danger or threat of injury (apart from falling or specific pain stimulation)	3.8	2	0	0	3.8	1.9	13.2	6.3
XIV. Warning or previous threat	2.4	1.4	.83	0	1.7	2.3	5.3	0
D. Total IX, XIII, XIV. <i>Harm, danger of bodily injury, falling</i>	14.2	10.5	11.7	17	13.6	8.5	23.7	8.3
XV. Signs of fear in others .....	.48	.84	0	0	.42	.93	2.6	2.1
XVI. Danger of loss of property .....	.24	0	0	0	.42	0	0	0
XVII. Fears arising during dreams .....	.48	1.4	0	0	.85	.46	0	8.3
XVIII. Ridicule, failure, personal inadequacy ..	1.2	.28	0	0	0	0	0	0
XIX. Robbers, kidnappers, etc., also death and dying (no immediate danger) .....	.24	.28	0	0	0	0	2.6	0
XX. The dark and being alone in the dark	4.1	2	3.3	0	3.4	1.9	13.2	4.2
XXI. Being alone or abandoned by parent	2.9	2	2.5	1.1	1.7	1.9	13.2	4.2
XXII. The dark or being alone plus expressed fear of imaginary creatures	1.9	1.4	0	0	3	1.9	2.6	2.1
E. Total XX, XXI, XXII. <i>Dark, alone and imaginary creatures when alone or in dark</i>	8.9	5.4	5.8	1.1	8.1	5.6	26.3	10.4
XXIII. Imaginary creatures (apart from dark- ness or being alone)	1.4	3.4	0	3.4	1.3	2.8	7.9	6.3
F. Total XXII-XXIII. <i>Imaginary creatures</i> ..	3.4	4.8	0	3.4	4.3	4.7	10.5	8.3
G. Total XVII-XXIII. <i>Dreams, ridicule, death, robbers, etc., dark, alone, imaginary creatures</i> ..	12	10.8	5.8	4.5	10.2	8.2	36.8	25

VI

in Response to Various Situations, Including Percentages Based upon (1) a Tally More Fears in a Given Category to Show (a) the Relative Frequency of Various Showing Fear in Response to Each Situation.

records are grouped together and when they are grouped according to bi-yearly age and girls are designated by the letters B and G.

(2) PERCENTAGES BASED ON TALLY OF *One* ONLY PER CHILD FOR ONE OR SEVERAL FEARS OF THE SAME CLASS

		(a) % of Situations								(b) % of Children							
		0-97		0-23		24-47		48-71		0-97		0-23		24-47		48-71	
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
		85	68	16	15	55	36	11	13	85	68	16	15	55	36	11	13
		230	186	58	42	138	112	26	28								
13.5	14.5			12.1	7.1	15.3	16.1	11.5	21.4	36.5	39.7	43.8	20	38.2	50	27.3	46.2
1.7	2.7			3.4	2.4	1.5	3.6	0	0	4.7	7.4	12.5	6.7	3.6	12.5	0	0
4.4	3.8			5.2	0	5.1	5.4	0	3.6	11.8	10.3	18.8	0	12.7	16.7	0	7.7
2.2	1.6			3.4	2.4	2.2	1.8	0	0	5.9	4.4	12.5	6.7	5.5	5.6	0	0
.4	.5			0	0	.7	.9	0	0	1.2	1.5	0	0	1.8	2.8	0	0
.4	0			0	0	.7	0	0	0	1.2	0	0	0	1.8	0	0	0
3.9	1.6			5.2	0	3.6	2.7	3.8	0	10.6	4.4	18.8	0	9.1	8.3	9.1	4.2
8.3	6.5			8.6	2.4	9.5	8.9	3.8	3.6	22.4	14.1	31.3	6.7	23.6	27.8	9.1	7.7
15.3	17.2			17.2	23.8	17.5	16.1	3.8	14.3	41.2	47.1	62.5	66.7	43.6	50	9.1	20.8
16.6	17.7			17.2	23.8	19	17	7.7	14.3	44.7	48.5	62.5	66.7	47.3	52.8	18.2	30.8
9.6	7			12.1	9.5	9.5	7.1	7.7	3.6	25.9	19.1	43.8	26.7	23.6	22.2	18.2	7.7
9.2	9.1			10.3	19	8	4.5	3.8	10.7	24.7	25	37.5	53.3	20	13.9	9.1	23.1
6.6	8.6			10.3	11.9	5.1	8	7.7	7.1	17.4	23.5	37.5	33.3	12.7	25	18.2	15.4
9.6	12.9			12.1	14.6	8.8	15.2	7.7	3.6	25.9	35.3	43.8	40	21.8	47.2	18.2	7.7
12.2	15.7			12.1	21.4	13.1	17.9	7.7	7.1	32.9	45.6	43.8	60	32.7	55.5	18.2	15.4
5.2	2.7			0	0	5.1	3.6	15.4	3.6	14.1	7.4	0	0	12.7	12.5	36.4	7.7
3.5	1.1			1.7	0	2.9	1.8	3.8	0	9.4	2.9	6.3	0	7.3	5.6	9.1	0
15.3	8.6			12.1	9.5	14.6	8.9	19.2	7.1	31.2	23.5	43.8	26.7	36.4	27.8	45.5	15.4
.9	1.6			0	0	.7	1.8	3.8	3.6	2.4	4.4	0	0	1.8	5.6	9.1	7.7
.4	0			0	0	.7	0	0	0	1.2	0	0	0	1.8	0	0	0
.9	2.2			0	0	1.5	.9	0	10.7	2.4	5.9	0	0	3.6	2.8	0	23.1
.4	.5			0	0	0	0	0	0	1.2	1.5	0	0	0	0	0	0
.4	.5			0	0	0	0	3.8	0	1.2	1.5	0	0	0	0	9.1	0
4.4	2.7			3.4	0	4.4	2.7	7.7	3.6	11.8	7.4	12.5	0	10.9	8.3	18.2	7.7
3.5	3.2			3.4	2.4	2.9	3.6	7.7	3.6	9.4	8.8	12.5	6.7	7.3	12.5	18.2	7.7
2.2	1.1			0	0	2.9	.9	3.8	3.6	5.9	2.9	0	0	7.3	2.8	9.1	7.7
8.7	5.9			6.9	2.4	9.5	6.3	11.7	7.1	23.5	16.2	25	6.7	23.6	16.7	27.3	15.4
1.3	4.8			0	7.1	1.5	2.7	7.7	7.1	3.5	13.2	0	20	3.6	8.3	18.2	15.4
3.5	5.4			5.2	0	3.6	3.6	11.7	10.7	9.4	14.7	18.8	0	9.1	12.5	27.3	23.1
10.9	11.8			5.2	9.5	11.7	8	19.2	25	25.9	32.4	18.8	26.7	29.1	25	45.5	53.8

The question as to the resemblance between boys and girls in fear of strange, unfamiliar persons is of more than passing interest. As is well known, studies of adults as well as of older and younger children have sometimes indicated that girls show relatively more interest than do the boys in personal and social relationships; boys, on the other hand, have been found to exhibit somewhat more interest than girls in objects and activities, with less attention to the personal element. In view of such observations, drawn from studies of language, children's expressed wishes, and studies of free association, one might expect in the present study to find a sex difference in the category of fear of persons as contrasted with fear of objects, dangerous activities, or other impersonal events. Actually, there is some indication that boys do exceed girls in fears of the latter character.

It has already been pointed out that boys exhibit relatively more fear of falling than do girls. In Table VI, it can further be seen that in the category of fears bearing the general designation of "harm"—including dangerous or possibly dangerous situations in connection with traffic, fire, drowning, assault, confinement, being shot—the boys likewise exhibit a somewhat greater amount of fear than do the girls. When a tally is made of all instances of fear, the difference is only nominal (3.8 as compared with 2. per cent); when a tally is made of the number of different children exhibiting fear of this character the difference is somewhat larger (14.1 per cent of the boys as compared with 7.4 per cent of the girls). The difference is particularly marked at the upper age level (36.4 as contrasted with 7.7 per cent of the boys and girls respectively). On the other hand, as noted above, girls exceed boys to a slight degree in frequency of fear of strange objects. From the findings as a whole the conclusion cannot be drawn that there is a significant or consistent difference between the sexes in the frequency of fears relating to persons as contrasted with fears related to objects and activities.

In the small category of fears labelled "warnings and threats" the boys consistently exhibit a greater frequency of fear than do the girls. Fear in response to "signs of fear in others" does not exhibit consistent or significant sex differences.

Girls exhibit fear in connection with dreams somewhat more frequently than do the boys, but the total number of fears in this category is small, and the relative differences are not consistent or outstanding.

Fears under the general heading of "the dark, being alone, being alone in the dark, fear of imaginary creatures when alone or in the dark" are exhibited relatively more frequently by boys than by girls, not only when all instances of fear are tallied but also when a tally is made at each bi-yearly age level of the number of children showing fears of this character. However, it will be noted that the actual number of fears in this class, as well as the differences between the sexes, is quite small.

A greater percentage of girls than of boys exhibit fears under the heading of imaginary creatures (apart from darkness or solitude). The differences are small, however, and are not consistent at all age levels. When a tally is made of all fears under the combined headings of imaginary creatures, dreams, darkness, being alone, ridicule, fear of death, robbers, etc., the differences between boys and girls are small, inconsistent, and not significant.

CHAPTER V

RESEMBLANCES BETWEEN CHILDREN OF THE SAME FAMILY

IN THE data submitted by parents who kept records for periods of twenty-one days there were fourteen groups of siblings or twins. These included three pairs of twins, three groups containing three brothers and sisters from the same family (two of which included twins), and ten pairs of siblings.

It is difficult to make statistical comparisons between these members of the same family, since the age differences between non-twins were large and varied. A rough comparison was made by the method of rank-difference correlation, based upon a tally of all instances of fear. When members of the same family were paired (on the basis of younger with older in the case of sibling pairs, twin A with twin B in one arrangement and reversed in the next, sibling with twin or twin with sibling—depending on age—and one twin in one arrangement and the other in the next), correlations ranging from .65 to .74 were obtained. Within these heterogeneous data, according to this coefficient, there was a good deal of correspondence between the frequency of fears of children of the same family.

Within the groups, it was possible to make twenty-one different comparisons between members of the same family (one comparison in the case of each pair of siblings, three comparisons in the case of each group containing three members of the same family). Within these twenty-one comparisons, there were eleven instances in which related children showed one or more fears of the same character, and four instances in which related children were similar in exhibiting no fear at all during the twenty-one days. Since some fears are quite frequent at all age levels, such as fear of noise or animals, this correspondence might per-

haps be expected by chance. The discrepancy in the ages of so many of the sibling pairs would tend to mask resemblances here as in the calculation of the number of fears per child.

There was a good deal of resemblance between the records of the members of each pair of twins. In the case of one pair, neither child showed any fear during the 21-day period, according to the mother's report. In the case of the remaining two pairs, there was much overlapping between the particular fears exhibited. Both members of one pair (aged 38 months) showed fear of animals (dogs) and of darkness; A displayed a fear of an imaginary creature in the dark on one occasion, but there was not a corresponding fear in B's records. In the case of the third pair (aged 51 months) both members showed similar fears in response to strange persons, a strange situation, and in response to the sight of blood; in addition to these fears, C showed fear of falling and of warnings, but D did not exhibit these fears.

In the data as a whole, including both the 21-day records kept by parents and other occasional records, many similarities as well as contrasts appear in the fear behavior of siblings. In some instances a younger child is reported to have shown fear apparently as a result, in part, of signs of fear shown by older siblings in response to the situation immediately confronting the children as a group. In one family, a child aged three years developed a fear of being alone in her bedroom in the dark and insisted on having the light on in the hall. This fear apparently dated from the time when she had overheard her older brother insist that his bedroom door be kept open and that the light in the hall be kept burning. In another family the mother reports that all her four children have shown much fear at the sight of very old and wrinkled people from the age of nine months to six years, but it is not clear whether the younger children learned this fear from older siblings or whether each of them might have displayed this fear apart from the influence of others. In contrast with this, instances appear in which one child shows much fear in response to a specific situation while his sibling seems to be unaffected by it. An illustration of this is the case of four children of the same family. Peter, aged 17 months, and Paul, aged 34

months, both showed signs of fear during electrical storms accompanied by thunder; the children cried, trembled, and clung to their mother or nurse; two older children in the same family, however, showed no fear of the storm, but actually seemed to enjoy it. In another such instance, James, aged 2 years 8 months, and his brother John, aged 4 years, saw a billy goat while on a visit to a farm. The older brother became very much frightened, but the younger boy showed no fear at all.

Further instances of the appearance of similar fears and apprehensions within the same family occur in the records of some of the children within a family of five. Sam, aged 5 years 10 months, gave signs of fear when a stranger approached the car in which he was sitting. His younger brother, Henry, aged 3 years, who was seated beside him, seemed unconcerned at first, but he also began to whimper and withdraw when he apparently became aware of the signs of apprehension shown by his brother. Within this family several instances of fear concerning the safety of others appeared. Sam and Henry, at the respective ages of 3 and 5 years, repeatedly voiced apprehension over the safety of their father if his homecoming were slightly delayed. At the age of six, Sam, after hearing about a dog that had been run over by an auto, frequently grew apprehensive about the safety of his own pet dog. If the dog were temporarily absent, Sam would remain at the window for an hour or so looking for signs of the dog. Finally he would go out on the road to look for him. The same child showed much apprehension when the father playfully grabbed the mother by the throat. At the age of 2 years 9 months, and continuing for two years beyond that date, this child had repeatedly voiced apprehension that someone might come and steal his baby brother, or that the strangers might keep the baby behind when the family went visiting.

Lois, the youngest child in this family, at the age of 17 months, displayed anxiety over the safety of others on four separate occasions during the period of twenty-one days when the mother was keeping systematic records. This child is the only youngster within our records below the age of two years who showed fears of this character. In one situation this child's brother, now

aged 4 years, hit his mother and the mother cried playfully. Lois immediately hurried from an adjoining room, cried and screamed, tried to pull the older brother away from his mother, stayed close to her mother, and "guarded her for the next half hour." On another occasion an older sister aged 13 years was lifting the four-year-old brother into the air. Lois, who previously had tried to protect her mother, now came to the defense of her brother; she ran to their side, pointed up toward the brother, cried, and protested.

At a later date the oldest sister was slapping a younger sister on the back on the occasion of the latter's birthday. The baby "cried in fright and tried to pull the two apart." The mother comments, "The child is often afraid that any member of the household will get hurt, especially if she hears cries." A fourth occasion on which the child apparently showed apprehension for the safety of others occurred when her older siblings were playing loudly and roughly. She cried and tried to separate the children. The fact that the child was equally generous in her concern for all members of the family would seem to indicate that the motive was not one of jealousy.

Limited data within the study indicate that extreme contrasts in the tendency to be fearful may occur among siblings. An instance of this character appeared in the reports of the fears of a girl aged 9 years and a boy aged 7 years. The older child was extremely fearful on her own account and was also apprehensive about the safety of her younger brother and other members of the family. She would fear to enter a dark room, refuse to go downstairs alone even during the daytime, show apprehension in crossing a bridge, and in scores of specific situations manifest a similar tendency to be afraid. Her younger brother was quite immune to fear in numerous situations which alarmed his sister. This contrast between the two children had been observed for some time. The older child's tendency to be afraid apparently was associated to some extent with her physical condition. The child became tired quite easily and appeared to be somewhat lacking in vitality. There was much change in this child's be-

havior and in her symptoms after she had received medical treatment including a much needed tonsillectomy.

An incidental item which is perhaps significant is the fact that the child just described, who frequently showed apprehension concerning the safety of others, is a cousin of the five children, described earlier in this section, who likewise showed a similar tendency toward anxiety over the welfare of others.

CHAPTER VI

CHILDREN'S REACTIONS IN FEAR SITUATIONS

TABLE VII gives a summary of the behavior exhibited by children in fear situations, based upon the descriptions submitted by parents who kept records for twenty-one days. The specific reactions described by the parents have been tallied under certain general headings. In making this tabulation, a given reaction exhibited in connection with a particular fear received only one tally, whether the reaction was repeated several times or exhibited once only. Similarly, only one tally was allowed in the case of a particular fear if the child displayed one or several reactions that are classed under the same heading; for example, if a child dodged, then stepped aside, and then, after a moment's hesitation, ran away from the event that frightened him, this behavior was tallied once under the heading which includes all of these features of withdrawal. It will be noted that some of the categories represent distinctions that are more apparent than real. For example, behavior under the heading of "cries, screams" no doubt was frequently equivalent to "specific calls or cries for help," but unless the record indicated that the child definitely sought the help of a specific person, as contrasted with outcries that did not include a specific request for help and were not aimed at a specific person, the behavior was tallied under the more general category of "cries and screams."

As shown in Table VII vocal responses constituted about a third, and other overt responses about two thirds, of the reactions exhibited in fear situations. Table VII shows some differences between older and younger children, especially in connection with the relative frequency of various types of vocal response. The younger child more frequently cries, yells, screams, and calls for help; the older child relatively more often exhibits more sub-

duced vocalizations, such as whimpering, audible catching of the breath, and mutterings which some parents describe as "fussing"; the older child also more frequently uses words in voicing protests, naming the feared event, and specifying the thing that he fears.

Even though some differences, such as the above, can be noted in the behavior of older as compared with younger children, the similarities between reactions at different age levels are more outstanding than the differences. This observation is somewhat challenging, in view of the age differences that appear in other aspects of the data.

Apart from the empirical evidence in the present study, there is much reason to believe that many differences between the behavior of older and younger children would appear if the more subtle expressions of fear could be recorded. The older child is better able to disguise or to inhibit outward expressions of emotion. He is also more capable of foreseeing possible danger and of laying schemes to avoid or circumvent a situation that he fears. It is possible that many aspects of his behavior in response to an event that he fears are not detected by those about him. In so far as this is true, a record such as that presented in Table VII may fail to give a true account of the characteristic reactions of children at one age level as compared with another.

The above comment raises even more fundamental questions. The record of characteristic expressions of fear at different ages may not be the only feature that is invalidated by the difficulty of detecting the more subtle aspects of a child's behavior. In an earlier chapter we have noted that fear seems to occur somewhat less frequently as children grow older. The truth may be that fear actually occurs quite as often and perhaps even more often as the child grows older, but that others fail to detect it.

Further, earlier tables have shown changes with age in the frequency of some fears as compared with others. It might be argued that this account should also be questioned if the claim is made that the fears of older children are more likely to escape notice than those of younger subjects. However, certain points may be raised against this proposition. It seems reasonable to

assume that the expressions of the fears that increase with age, according to the present findings, would be quite as hard to detect as expressions of the fears that seem to occur more often at earlier ages. It is even possible that fears of the kind that show an increase with age in the present results would be more difficult to detect than the fears that predominate in earlier years. According to the data, younger children exhibit a large number of fears in response to concrete and immediate events, as though these in themselves were inherently dangerous. The child cries and runs away from a noise; he cries, retreats, or clings to his mother when confronted by a strange person. When these events are withdrawn, his fears subside. The older child, on the other hand, exhibits a greater number of fears of an imaginary or anticipatory nature. He shows apprehension over future punishment, harm, or failure even though no agent of such misfortunes is confronting him at the moment. By reason of his greater fund of past experience, his capacity for retention and his capacity for mental elaborations, an event may have meanings to him that do not occur to a younger child. Moreover, his apprehensions may be revived by slight cues that had no effect upon him at an earlier age.

These observations are not meant to imply, of course, that there is a difference in kind between the mental and emotional processes of older children as compared with younger. The differences in the case of fears, as in the case of all other activities, is a difference not in kind of behavior involved, but in the degree to which the individual is responsive to reduced cues. Moreover, these observations are introduced only as points that may be borne in mind when the question is raised whether the present results give a spurious picture of the changes that come with age in the relative frequency of various fears. This question has been raised on hypothetical grounds and it is being answered in kind. The claim is made that adult observers may fail to detect many of the more subtle evidences of fear, especially in the case of older children. But even if this were true, the data still show some decided changes in the relative frequency of various fears. The major changes, as we have seen, are in the direction of an

increase in fears of an imaginary and anticipatory character. There is good reason to believe that fears of this sort would be quite as difficult to detect as fears exhibited in response to concrete details of events that immediately confront the child; if, indeed, not more difficult. If this argument is sound, the likelihood is that the age trends shown in the present results not only would continue to be in the same direction but might even stand out more emphatically if the data could have included a more faithful picture of the more subtle and obscure symptoms of fear.

The foregoing considerations suggest a few additional comments regarding the adequacy of the observational method, not only as applied to the study of fears, but also as applied to the study of other emotions. The wide use that has been made of the observational method as a research technique is a matter of common knowledge. Undoubtedly, the limitations of the method are as marked in some other fields as in the study of fears, and some of the results obtained by the method are open to question. When, on the basis of observations by parents or by trained research workers, the conclusion is reached, for example, that there is a decrease with age in the frequency of anger, or that the frequency of resistant behavior declines after a certain age, or that jealousy reaches a peak during early preschool years and then declines—the truth of such generalizations may be more apparent than real. What actually may be the case is that the child is not at all less frequently subject to anger, jealousy, or resistant impulses when he is older. The truth may simply be that his behavior more often escapes detection, by reason of a decline in gross reactions and an increase in less noticeable and less direct forms of expression.

If one were to obtain a complete picture of an individual's behavior when he is afraid it is obvious that the methods used in the present study would have to be supplemented by laboratory procedures. The various features of behavior which we may, for convenience, label as fear, are, of course, not equally accessible to the eye of an observer. At one extreme are the obvious overt acts, vocalizations, and words which anyone may detect. Less obvious are the internal physiological accompani-

ments of emotion. As noted in the introduction to the present study, these reactions, in so far as they have been measured at all, have not exhibited consistent patterns. Most inaccessible of all are the thoughts and feelings which occur within the mental life of the subject himself. In the present investigation the subject's behavior has, in effect, been approached from two extremes. On the one hand are the data with regard to children's overt reactions. On the other, as will be reported at a later point, are the introspective accounts given by subjects themselves regarding their fears. The reactions lying between the subjective experiences on the one hand, and obvious overt reactions on the other, have not been probed in this study.

CHAPTER VII

EARLY FEARS

CASE STUDY OF A CHILD WHO WAS OBSERVED FROM THE TIME OF BIRTH

THE following is a record of the fears of a boy whose mother kept a detailed diary of the child's development during the first months of life, and occasional records thereafter. The development of fear of strangers, apparently coincident with the development of ability to distinguish between familiar and strange persons and between white and black faces, is one of the noteworthy features of the account.

Age: 2 days. Started and body quivered in response to the sound produced by the movement of a wooden chair, the legs of which scraped upon the floor.

Age: 3 days. In response to the banging of a door, blown shut by the wind, child "trembled all over."

Age: 3 days. In response to the unsteadiness of the bed on which he was lying the child's body "quivered."

Age: 14 days. An older child made a noise in running across the room in which the child was lying on his bed. There was "trembling of the entire body." (According to the mother's description the response was "a distinct expression of fear, and not merely of hunger or other disturbance such as being uncomfortable with too much food or wet napkin or desire for change in position.")

Age: 14 days. Loud voice near baby, "body quivered."

Age: 66 days. A woman who was a stranger to him picked up the child after his nurse had bathed him. The child "stared, puckered his lips and then cried with fear. His nurse took him and he immediately stopped crying."

(This is the first time he responded to a new face in this way.

He continued to show this reaction to new faces for several weeks, but not in response to all new faces, however.)

Age: 12 weeks. On this day the child for the first time showed what appeared to be fear (crying, quivering lips, "hands and arms trembling") in response to the sight of a colored person.

(According to the mother's report the child, between the time of this record and the one immediately above, gave signs of distinguishing between familiar and unfamiliar faces. He had seen this colored person before, but had not previously given signs of distinguishing between her and white people. During the dates surrounding the present record he appeared to take special note of the difference between colored persons and white people and he cried whenever the colored face appeared. At the mother's suggestion, the colored woman began to talk to the baby in a quiet way. "He gradually stopped the yelling and listened. His lips quivered for a time, but he did learn not to fear the dark-faced person.")

Age: 14 weeks. At this time occurred the first recorded fear of animals. The family cat was playing with the baby's hands as the baby was waving them vigorously. The rapid succession of pats by the black paws seemed to frighten the baby. He shrieked, cried, waved his hands repeatedly. The nurse removed the cat, and after a little while the child became quiet.

Age: 18 weeks. In response to a loud peal of laughter the child emitted a quick succession of shrill cries. He puckered his lips, his body trembled and his "arms and legs moved simultaneously."

At 2 years 6 months this child was observed systematically for twenty-one days. The fears noted during this time are included in the data reported in earlier tables. Between the ages of 6 months and 2 years 6 months less systematic records were kept, but some fears were recorded, including the following:

Age: 15 months. In response to the laughter and applause of children in a darkened auditorium of a school which the child was visiting with his mother, the child screamed and kicked and clung to his mother, who held him in her arms.

Age: 16 months. Showed fear (crying, attempts to escape)

when taken a second time to the surroundings in which he had been given toxin-anti-toxin injections.

Age: 18 months. Showed apprehension (continued efforts to be near an adult, "strained expression on face," and altered pitch of voice) on the first day after the family had moved to a new home in the country. He was "a changed person for the first day, but he soon came round pretty fine."

Age: 21 months. Gave signs of apprehension at the sight of a large, outdoor swimming pool in which children were splashing and shouting. He remained at a distance from the water. Refused to go into the pool with anybody and every once in a while looked toward the water in pool.

Age: 23 months. Child received an electric shock when he touched a transformer belonging to his older brother. He emitted loud cries "the like of which" the mother had never heard before, and yelled, "I got a shock, I got a shock." He hurried downstairs to his mother, holding out his finger and pointed to it with the other hand. He continued to show fear of several objects connected with electricity including sockets, lamp cords, and even the brass works of a clock.

During the twenty-one days of observation at the age of 26 months the child showed fear in response to snow when he was introduced to it for the first time and apparently had a little difficulty in keeping his balance on the slippery walk. He showed fear also when he nearly fell out of bed at one time, and in response to a strange elevator in an apartment house. Another fear arose apparently during a dream. He stirred on waking from his afternoon nap and when his mother came to him he said, "I was afraid. I was riding on a bicycle. I fell down. I hurt myself." Apart from his language, however, he did not seem to be intensely affected by what had occurred.

EARLY FEARS AS DESCRIBED BY PARENTS WHO WERE INTERVIEWED

In the foregoing account it appears that noise was responsible for the first signs of fear in the child's life. Further data with regard to early fears appear in the following results, which were

obtained through interviews with thirty-one mothers. Each mother was asked, among other things, to tell what was the first fear displayed by her child, as far as she could recall. Some of the mothers reported that they could recall fears occurring during the early weeks of the child's life, while the first fears recalled by other parents occurred later than this. The accounts given by the mothers are summarized below.

Age at Which Fear Was First Observed	Event Causing Fear	Age at Which Fear Was First Observed	Event Causing Fear
<i>(Number of children involved in parentheses)</i>			
1 week	noise (1)	9 months	noise (1)
2 weeks	noise (1)		
3 weeks	doctor (1) darkness (1) ¹	Sometime during first year	falling (2) noise (1)
4 months	doctor (1) noise (1)		noisy and sud- denly moving object (1)
5 months	painful situation (1) noise (1) strange persons (1)	12-17 months	animals (2) strangers (1)
6 months	noise (1) falling (1) inflation of bag accom- panied by noise (1)	18-23 months	falling (1) being submerged in water (1)
		Over 30 months	noise (1) falling (1) doctor (1)
		Approximate date not recalled	noise (1)
7 months	strange persons (1) noise (1)	None recalled	(2)
8 months	specific objects (coats and hats) (1)		

Summary

Noise 12²
Falling and danger of falling 5
Painful situation or association 4
Strange people 3
Moving objects 2²

Animals 2
Specific objects 1
Harm (submerged in water) 1
Darkness 1
None reported 2

¹ According to the mother's interpretation, the child in this case showed fear in response to being placed in a dark room after having become accustomed to a continually lighted room during his preceding two weeks' stay at a maternity hospital. There is no means by which this or other reports summarized above can be verified.

² Two fears due apparently to the factor of noise in addition to sudden movement are tallied under each of these headings in this summary.

The above results should be regarded as a statement of parents' impressions rather than as a verifiable account of what actually had taken place. The children whose first fears were being reported ranged in age from 2 to 3 years at the time of the interview and it is doubtful that recollections extending back so

far would be accurate. According to the mothers' accounts, noise most frequently gave rise to the earliest fears exhibited by children. Earlier tables, it will be recalled, likewise showed that noise was a prominent cause of fear.

An extraneous observation might perhaps be introduced at this point before the conclusion is drawn that noise stands preëminent as a fear stimulus. It is obvious that the frequency of fear in response to a particular event will depend not only upon the child's susceptibility to fear but also upon the number of times the event occurs. It is possible to shield the child from many circumstances that might frighten him; moreover, the younger he is, the more restricted will be his movements and his opportunities for meeting frightening events during the course of his own activities. On the other hand, it is difficult to shield the child from noises. Bells and buzzers, the clatter of falling objects, outcries by other persons, slamming doors, the radio, the roar of outside traffic, constitute only a few of the noises that are constantly carried to the child's ears unless he is kept in a sound-proof room. Undoubtedly, if one could make a count of the number of times each of the events listed in the tables presented earlier in this chapter actually occurs, one would find that noise far outnumbers most of the others. One would also find, no doubt, that all children are often exposed to noise while many of them, at a given age, may never have been exposed to all the remaining conditions that lead to fear. These observations do not, of course, dispose of the fact that noise is an effective fear stimulus. But they do suggest that the apparent prominence of noise as a cause of fear is due in part to the fact that noise is more universal and frequent than are many other stimuli.

INTENSE AND PERSISTENT FEARS

From the accounts given by parents who kept daily records of their children's fears one can gather that some fears were accompanied by more acute symptoms than others. However, the descriptions of reactions exhibited by the children do not lend themselves to systematic ratings designed to discover whether some fears consistently are more violent than others. In an

effort to obtain some information regarding fears that produced the most marked symptoms, the mothers of thirty-one preschool children were questioned in private interviews. Each parent was asked to describe the fear most outstanding (as distinguished from earliest in its first appearance, most persistent, or most frequent in occurrence). A summary of replies follows:

Fears Reported as Most Outstanding from the Age of Birth to Two or Three
Years as Reported in Private Interviews by Parents of 31 Children

(The summary includes records of two fears in case of each of two children whose mothers reported two equally outstanding fears.)

Situations Provoking Fear	Number of Children	Situations Provoking Fear	Number of Children
Animals	6	Objects previously associated with sudden visual event plus noise (bursting balloon)	1
Noises or objects from which noises have come	6	High place and danger of falling	1
Strange persons	3	Being alone	1
Strange place	2	Imaginary creatures	1
Painful objects and medical situation	2	Specific objects (hats and coats)	1
Objects previously associated with sudden movements	1	"No outstanding fear"....	7

When the same parents were asked to tell what fear or fears had been most persistent in the lives of their children, the replies distributed themselves as follows:

Most Persistent Fears in the Lives of 31 Children, as Reported by Their
Mothers When Questioned in Private Interviews

(When more than one class of fears was reported in the case of a particular child, each class of fears so reported was included in the tally.)

Noise and previously noisy objects	11*	Strange place	1
Dogs and other animals ...	7	Danger of falling	1
Painful objects, persons or events (doctor, hot object, bristles, etc.)	7	Darkness	1
Suddenly moving, rushing, or strangely rolling objects	4*	Being alone	1
Strange persons	4	Imaginary characters (Jack Frost and Wee Willie) ..	1
		No fear persisting beyond a few weeks (number of children)	5

* Includes two fears in each of which there was an element both of noise and sudden movement.

It will be noted that there are a few discrepancies between the frequency of various items when an account is given of the fears that were most persistent as compared with fears that had the most pronounced effect while they lasted.

CHAPTER VIII

DIFFICULTIES IN THE PREDICTION OF FEAR

THE data of this study include repeated illustrations of the difficulty of foreseeing when fear might arise or of predicting just what turn a conditioned fear will take. Following are only a few of the many instances that might be cited.

A child of 9 months when placed in a rubber bathtub with a canvas cover resting against one side of the tub, showed fear with intense crying, when the cover accidentally dropped, making a noise. The same child did not cry or show signs of fear when placed in other tubs of water or when given a bath in other tubs.

Up to the age of 14 months, a boy had shown no fear of being bathed or no fear of going near the edge of streams. At the age of 14 months he was left in charge of a nurse. He developed a very strong aversion to being bathed, which persisted even when his mother took care of him. This fear seemed to have disappeared entirely by the end of the fourth year. Even while he was showing fear of the full bathtub he did not seem to mind the shower.

In contrast with these specific fears are the following two cases, in which fears persisted for some time.

At the age of 2 years 8 months, the child developed a fear of the toilet. He was afraid of the one at the nursery school as well as at home. Just prior to this time his nursemaid had strapped him on his stool at home and had gone away. His mother found him there an hour later, screaming and quite exhausted. Since then he has protested against going to the bathroom and he holds his urine.

At the age of 2 years 6 months a girl one morning, for no apparent reason, refused to sit on the chamber and showed fear of the chamber. She was afraid also to go to the toilet and afraid to sit down on anything that was like a chamber. This persisted for three days. When she needed to go to the toilet she would begin to cry. She would jump up and down but refuse to be placed over any receptacle, and would wet her clothes.

The fear apparently arose while the child was being cared for by a nurse when the mother was away from home, but just what caused the condition could not be traced.

The following is an example of the specificity of fear of noises:

A child aged 2 years exhibited for a period of several months a marked fear of the noise of rattling window shades. However, he showed no fear of a variety of other noises, including loud claps of thunder during storms.

The fear of window shades apparently originated in the dining room of the nursery school that he attended; a casual observer, witnessing the repeated signs of fear exhibited in the dining room of the nursery school, might readily form the impression that this youngster was quite a timid soul. Yet, other situations would give a different impression. As noted above, he was quite nonchalant when the thunder was crashing; on visits to the country he would unhesitatingly pick up bugs and caterpillars; when introduced to a swimming pool for the first time, he immediately went into the water up to his neck without showing signs of apprehension. Another specific fear follows.

At the age of 20 months, a girl who had previously often ridden in elevators began to insist that she had to be careful in stepping over the crack between the elevator and the floor. Even though the open space was only an inch wide it seemed to trouble her. She would hesitate, draw back, look at the crack, and would ask to hold her mother's hand.

The same child would climb up on chairs and tables and other "heights" without any fear at all. After a few days she grew reconciled to walking over the crack.

The following case illustrates the seemingly irrational turns that children's fears may take.

During his second year Bob seemed quite unafraid of all domestic animals on the farm on which he lived. His parents had to warn him not to mingle too freely with the horses and cattle and to stay away from a herd of large and active pigs. The same child appeared to have no fear of high places. At one time while his father was working in a hay loft, he heard a small voice calling to him, and looking around he saw Bob through the open door of the hay loft, clinging to the rungs of a ladder sixteen feet above ground. The child had climbed

up the ladder which rested on the ground and appeared to be quite unconcerned about the possibility of danger. Yet this same child, so fearless in these situations, was very much afraid of a pet rabbit.

An example of the failure of a harrowing experience to produce a continuing fear, appears in the following case.

The child, aged 4 years, was playing in the water on the beach of the ocean when a storm came up. There was a high wind, the waves rolled and rain came pouring down. The child was carried along by the waves and showed a good deal of apprehension not only for herself, but also later when her mother went into the water. However, when she was brought to the beach again, she showed no fear of the beach or of the sea. At another time she accidentally went out beyond her depth in the water and a large wave washed over her face. She appeared to be frightened but again only momentarily.

In contrast with this is the case of a boy aged 2 years 8 months who originally showed no fear of the waves.

Then on one occasion he slipped and fell down and was submerged for some time. After this he showed fear of the water and avoided it for several weeks. No special attention was given to the fear and by the end of the summer he no longer showed hesitation in entering the water.

The following case illustrates the difficulty of estimating just what feature of a situation will be associated with fear.

A girl, aged 3 years, was very much frightened when she was visiting the cellar of her home. A colored porter released a rat trap which snapped with a loud noise. She subsequently showed no fear of the cellar, but for some time she continued to claim that she did not "like" the colored porter.

The capricious nature of fear, at least as it appears to parents, is further seen in the following case, which is included among the occasional records.

At the age of 2 years, this boy seemed to enjoy storms, and he was sometimes heard to say "bang" when the thunder clapped and "Oh, see the light!" to the lightning. The following year, however, when he was exactly three years old, he responded quite differently. During an electrical storm, accompanied by thunder, he began to cry loudly, ran to his parents and asked, "What's that?" He was less afraid when someone was in the room with him. Expressions of fears of this kind were heard whenever there was a storm during the summer;

but by the end of the summer, the symptoms became fewer and less pronounced.

At the age of four years, the fear of storms had apparently disappeared. The child had never, to the knowledge of his parents, been in the presence of any person showing fear of storms.

In an effort to secure more information about fears displayed by children for unaccountable reasons in response to events that had not previously been feared, thirty-one mothers were asked in private interviews to state whether they had observed such fears. Fourteen of the mothers reported that they had not observed any fears that could not be attributed to definite causes. In the remaining cases, fear of strange persons was reported most frequently as occurring quite fortuitously (5 cases); other fears described as appearing for no apparent reason were fears occurring during nightmares and dreams (4 cases), fear of animals (3), of bogeys (2), thunderstorms (1), specific objects (1). Only one fear of noise was reported in response to this inquiry; it appears that the parents regarded noise as a sufficient cause in itself even though the child feared some noises and not others.

CHAPTER IX

MISCELLANEOUS FEARS

FEAR OF STRANGE ANIMALS

THE data include several records of fear shown by children on visits to the zoo. In many instances, however, except where the record showed that the child had previously been told frightening tales about wild animals, it appeared that the noises made by the animals were an important factor.

One 3-year-old boy, for example, displayed no fear at all when first he visited the lion house at the zoo, but he became afraid when the lions began to roar.

Similarly, a 2-year-old boy gave signs of fear when he entered the bird house which presented a bedlam of noises. Previously in visiting other animal houses he had not shown apprehension.

Several children are reported as showing fear when first presented with a furry toy animal. Whether this was due to the fur and other animal characteristics, or to the strangeness of the object as such, is not certain from the records, although the factor of strangeness appeared to be a significant item.

One boy, aged 2 years 6 months, at the zoo showed extreme fear when the hippopotamus that he was observing opened his mouth very wide and roared. He cried, "I want to get out of here." When his mother told him not to be afraid, he replied, "No, I'm not afraid, but I don't like that big mouth."

The child who displayed fear when the hippopotamus roared did not, however, show fear of animals in general. He showed no hesitation in picking up and playing with frogs and small turtles and he showed no fear, but much interest, in response to insects, bees, and wasps. Before the age of 3 he had seen many garden snakes, but showed no fear; he would sometimes

approach them without hesitation and try to chase them and hit them with a stick.

Other instances of no original fear response to animals include cases where 3-year-old children ride a horse alone for the first time and show no fear, or show no hesitation in picking up various insects and caterpillars.

Although the data are not conclusive on this point, the records do not strongly suggest that there is an instinctive fear of animals as such. The fear exhibited in response to animals, as suggested above, is often due to incidental factors. Often the noise made by the animal seems to be the conditioning factor. Again, it appears that fear produced by animals is of a kind with fear of sudden or unexpected movements; instances of this appear in cases where children start when a rabbit suddenly jumps, or a snake glides swiftly and noiselessly out of sight. Further, as suggested above, a child may show fear of an animal much in the manner that he shows fear of any strange object. The present records, as well as records to be reviewed later in a discussion of childhood fears remembered by adults, indicate also that fear of a particular animal is often influenced by adult warnings and by signs of fear shown by others.

UNFAMILIAR VARIATIONS CONNECTED WITH FAMILIAR OBJECTS

Several fears under this category are represented in preceding tables, such as fear shown by a child when, for the first time, he saw his grandmother without her glasses (she had always previously worn them when seen by the child). A further example that was reported during a parent interview is the fear shown by a child aged 3 years in response to a toy horse. The child had previously played much with the horse and enjoyed it but, as a result of an injury, the toy became soft to the touch and felt differently. The child would not play with the toy any more and showed signs of fear when it was given to him.

FEAR OF BODIES OF WATER

Some of the preceding illustrations deal with children's reactions to bodies of water. The data include several records of

children showing fear when brought to the beach and the ocean, especially when the waves were rolling in. In some instances this fear appeared to be a spontaneous and unlearned response, rendered acute by the oncoming waves, but the incidental noise may have been the chief factor. One child who showed this fear quite prominently soon learned to enter the water without hesitation on a later day. Another child showed no signs of fear when he visited the ocean for the first time, but on the second occasion he showed signs of fear, he withdrew and wanted to be held in the arms of his mother. The mother had the impression that it was the noise of the waves that affected him most. She reports that "he soon got over it."

At the age of 23 months, Hannah, while being carried in her mother's arms, appeared suddenly to notice the ocean. Small waves were rolling up to within thirty feet of her at the time. She turned her head away, buried it on her mother's shoulder, whimpered and struggled to get away. Previous to this time, the child had been fond of water in all forms, so the child's reactions came as a surprise to her mother who had never seen fear of any kind in her before. At the end of a week, the child was happy and quite fearless in the same situation and she would sit in the water playing with the waves.

There are several instances of apparent absence of fear in connection with the water.

The first time that E, at the age of 2 years 3 months, was brought near the ocean, he walked right into the water. He fell down and was covered by the water, but still he showed no fear.

Another child, aged 3 years, showed no fear of the waves when she saw them for the first time.

Still another child, aged 3 years, showed no fear of going into the swimming pool for the first time and no fear during her first experience with the ocean and with the waves. Once she was knocked over by a large wave and covered with water; she cried for a moment, but showed no subsequent fear.

Other instances such as the foregoing might be cited. As far as can be ascertained from the data in the present study, children differ apparently in their response to large bodies of water; there certainly is no consistent evidence that fear of the waves or of large bodies of water as such is instinctive.

The degree to which fear may be a matter of personal idiosyncrasy can be seen by contrasting the following case with some of the illustrations immediately above.

At the age of 2 years Albert showed extreme fright when he was taken to a lake and saw several people swimming and diving. He cried and refused to go near the water. An effort was made at once to combat this fear. The visits to the lake were repeated and the swimmers coöperated by showing signs of pleasure in going into the water, laughing when they came up after a dive, throwing sticks out to him from the water, going into the water slowly after preliminary play with him. He was enticed to put his toes into the water, following a game in which he had been induced to chase a stick. After some play with the stick, the adult threw it to a place where the child could reach it only if he went into the water a few inches. After several repetitions of his technique, the child seemed unafraid of going into the water up to his waist. Traces of fear remained for a long time, however. The following year he again showed extreme fright when he saw someone swimming in rough water. It developed that the fear was due in part to his belief that his mother was among the swimmers. When he discovered that she was not in the water, his signs of fear disappeared. (But he did not then enter the water himself.)

FEARS RELATING TO THE SAFETY OF OTHERS

The procedure used in classifying fears relating to the safety of others has been described in an earlier section. Fears of this character were classified in terms of the situation which apparently gave rise to them and were tallied as the equivalent of fears relating to the child's own safety. For example, if a child showed fear when, from a safe distance, he saw a dog run toward his brother, this would be tallied with other fears of active or aggressive dogs. Each fear of this character was, however, identified and separately recorded for the sake of subsequent independent analysis.

In the 21-day and the occasional records, there were a total of twenty-three fears relating to the safety of other persons, representing twenty different children (one child exhibited four such fears). These twenty children included fourteen boys and six girls. The ages of the children ranged from 18 months to 72 months, with approximately an equal distribution at each yearly age level.

The largest single group of sympathetic fears of this character (9 of the 23) were shown when another person was threatened with pain stimulation or was actually being subjected to a specific pain stimulus (being hit, treated by the doctor, etc.). Three of the twenty-three fears were shown when another person was in possible danger of falling (lifted high above ground, or perched on a high place), and three were shown when there was a possibility of bodily harm, other than falling (parent riding in a car, parent diving into water, fear that pet dog would be run over). Two of the fears arose in connection with possible danger to others through the presence of animals, two occurred in connection with strange persons (sibling approached by strange person or left alone with strange person), and two in connection with apprehension over possible danger to others from imaginary creatures. Other categories in each of which one such fear arose include: strange objects, objects associated with a flash of light and noise (mother approaching an electric socket following a flash and report caused by a short-circuit).

A total of twenty-three fears concerning the safety of others, it will be noted, is quite small compared to the number of fears in which the child was immediately concerned with his own welfare. Fears in which this element of sympathy appears represent less than $2\frac{1}{2}$ per cent of the fears included in the data.

When a tally of one was allowed for one or more similar fears relating to the welfare of others within the data obtained through 21-day records kept by parents, the data show that in 70 per cent of the instances of fears of this character the child also exhibited corresponding fears of the same event under circumstances where he was concerned about himself and not about others. Undoubtedly, if records were kept over a longer period of time, it would be found that practically all instances of anxiety over the welfare of others are in response to events which the child himself fears.

PHYSICAL EFFECTS OF FEAR

In most of the instances of fear recorded in the present data it appears that the child's overt symptoms persist for only a

short time after the frightening event has been avoided or removed. In some instances, however, the effects are more pronounced and enduring. In the following case, the child appeared to be disturbed for some time.

A child aged 3 years 8 months, while playing with his cat in the cellar of his home, set fire to something under the cellar stairs. According to the report of the fear, he came upstairs and sat behind a big chair. The fire made headway before it was discovered and smoke soon reached the upper floor. When the smoke was discovered the child stepped out from behind the chair and begged the maid to save his cat. He seemed very much excited. He was taken to a neighbor's house where he stayed under a bed. He returned after the fire had been extinguished but ate very little supper and according to the report, he fell into an immediate sleep thereafter "acting as though he were completely exhausted." The next morning he awoke about an hour later than usual and wanted to stay in bed all day, claiming that he was *so tired* and that he wanted only orange juice for breakfast. An hour later he arose and dressed himself and announced to his mother, "To-day I am going far away." When asked the reason why, he replied: "Because my father said he is 'igusted' with me," and his eyes filled with tears. For some time after the occurrence he seemed worried.

In an earlier table we have noted that the reactions observed in connection with fear consisted chiefly of cries, vocalizations, and overt movements of avoidance, withdrawal, and attempts to cling to adults. In a few instances, within the 21-day records and the occasional records, more pronounced symptoms were observed. As indicated in an earlier paragraph, two children were so affected by fear of the toilet that they withheld their urine. The child described in the immediately preceding paragraph apparently lost his appetite. Two children, as noted in Table VII, regurgitated their food when frightened.

THE EFFECT OF THE CHILD'S PHYSICAL CONDITION ON SUSCEPTIBILITY TO FEAR

On the forms used in recording instances of fear the parents were asked to give information as to the child's state of health, abnormalities such as colds, digestive upsets, visits to the doctor, loss of sleep, and irregularities in the day's routine. The parents were asked to report such items on the blanks covering not only

the days when fears actually occurred, but also the days when no signs of fear were noticed. Many parents neglected, however, to make systematic reports of the child's physical condition and of events surrounding him on days when he showed no fear. In the case of records which provide this information, there is no conclusive evidence of a relationship between the frequency of fear and the occurrence of such events as colds, loss of appetite, disturbance of sleep, or other irregularities.

Even if a child actually were more susceptible to fear when in ill health or when suffering from loss of appetite or loss of sleep, records such as those kept in the present study would not be likely to give an adequate picture of this fact. The occurrence of fear, obviously, depends largely upon the child's opportunity to be about and to meet events that might frighten him. If he were tired or in other ways physically below par, he would be less likely to be active and to enter into situations that might scare him. On the other hand, the question might be raised whether, in a given situation already confronting him, the child would not be more likely to exhibit fear when he is physically below par than when he is in normal health. There are indications within the present records that the child has less resistance to fear when he is physically exhausted, but such indications appear only in isolated instances. An example of this appears in the following case: The mother reports that her boy, aged 2 years 8 months, is more likely to show fear of being left alone at night in the dark on evenings when he seems to be more fatigued than usual; this same child also was much afraid of the vacuum cleaner, which sometimes was left in his bedroom at night; the mother reports that the child had almost overcome this fear at the time when she began to keep records for the present study, but the fear still recurred on nights when the child appeared to be quite tired.

CHAPTER X

METHODS OF DEALING WITH FEAR

A NUMBER of observations dealing with the overcoming of fears appear in the descriptions of fears submitted by parents and other adults. In addition, some information on this topic was obtained through specific questions that were raised during interviews with a number of parents. As will appear in a later section of this monograph, the topic is also considered in connection with reports by adults of fears they remember from their own childhood.

REACTIONS OF CHILDREN

The data submitted by parents who kept records for twenty-one days contain instances in which the child exhibited fear and then quickly recovered from it, apparently as a result of closer inspection or prompt discovery that there was no danger. For example, a child screamed and struggled in apparent fright when placed for the first time on the back of a horse, but as soon as he was seated and had safely ridden a few steps the fear gave way to delight. Another child seemed "panicky" on his first visit to a country home after having spent all of his life in the city, but he quickly grew accustomed to his new environment, apparently without help from others. Again, a child at first may shrink from a dog, but when the dog makes no aggression he comes closer, pats the dog, and seems to overcome his fear. Instances of this character are, however, relatively few in number in the present data, partly because of the circumstances under which the records were taken. The very fact that a fear was being observed meant that an adult was near. As a result, the child had someone from whom to seek help; moreover, if the child were badly frightened, the adults themselves would often take

a hand in the situation, quite apart from any direct request for aid. With these factors present, a record could not be obtained of how the child would cope with the situation if he had to depend upon his own resources. Furthermore, in many instances it was not clear just what adjustment the child might make of his own accord, since the event causing the fear lasted only a short time. A child might, for example, quickly regain his composure after hearing a startling noise, or seeing a passing dog, or dropping through space. But to learn whether the child's fear were temporary or lasting it would be necessary to see what happened were the same stimulus repeated.

In a few instances it appeared that the child took definite steps to reassure or "nerve" himself in coping with a situation that he feared. One such instance is that of a two-year-old child who was afraid of the dark. On one occasion while he was climbing the partially dark stairway his parents overheard him "making loud noises with his mouth as if to give himself more courage." In the records of two- and three-year-old children the attempt at self-reassurance sometimes takes a verbal turn in such places as a repeated claim, "the dog really won't bite," "there isn't any bad man in there." One child repeated the words, "Billy is just joking," several times (at a safe distance, however) after a nursery school playmate had threatened to "kill him dead" and to chop him up in "tiny pieces." Such methods of reassuring himself seem to represent behavior that the child had acquired through learning.

In the following instance, a child showed a sudden "about face" in his fear behavior, but it is not clear how it happened. Beginning at the age of one year a boy showed signs of fear in the presence of a cousin two years older than he. When the two were together the younger child would run to his parents, cling to them, and insist on sitting on the lap of his father or mother. The older child is described in the record as being somewhat of a bully who would hit the younger boy, throw things at him, and sit on him when the two were left alone together. This state of fear in response to the older child continued for a whole year. Then suddenly one day while the older child was tormenting

him, the younger child began to laugh instead of running away and crying as he had done before. The older child "seemed surprised" but he soon began to laugh also and from that time the two have played together in a very congenial way.

During the time when the youngster was afraid of the older boy, according to the mother's report, "and felt so inferior to the older boy, he seemed to want to feel superior in some way, so he took things away from the boy's baby sister. Now all three play together with only an occasional disagreement."

The mother gives no explanation for the sudden change from signs of fear to laughter in the child's relation with the older boy.

In the following situation, the child's apprehension apparently was overcome in part by the effect of the familiar (and previously much enjoyed) stimulus of music.

A girl, aged 2 years 10 months, was approaching the room where a music study was being conducted when she saw the bright lights used in taking moving pictures; she held on to the teacher's dress and cried loudly, "No, no." While she and teacher waited, two other children went past and entered the music room. The child became calm when she was told that she need not go if she did not want to. In a moment music was begun in the room and as soon as she heard the piano she smiled and immediately starting down the steps, went into the room without hesitation.

An earlier paragraph summarizes the replies given by parents when they were asked to describe fears that suddenly occurred for no apparent reason. Each of the same thirty-one mothers was asked in a private interview whether she had observed any occasion on which her child suddenly and for no apparent reason lost all signs of fear in response to an event that previously frightened him. Only one parent reported an instance of this character. Her child was very much afraid of the stairs for a time, and then, for reasons unknown to the mother, appeared to lose the fear entirely. None of the remaining mothers had noted any dramatic or sudden change from fear to non-fear. Even though, in response to other questions, most of them reported fears that had come and gone, it appeared that the overcoming of the fears was a gradual process rather than an abrupt one.

METHODS USED BY PARENTS IN DEALING WITH FEAR

As already mentioned, the blanks on which parents made daily records of their children's fears called for a description of the behavior of adults who were present when a fear occurred. In addition, further information with regard to methods of overcoming fear has been obtained through specific questions on this point in interviews with parents. The methods described by parents in response to questioning may be summarized under a few general heads.

Some form of explanation or reassurance was the technique most frequently described. The mother reports, for example, that she "talks things over"; assures the child that there is no danger; explains, for example, that the dog means no harm, but is actually trying to make friends; that the noise from the vacuum cleaner is just a noise and not a menace.

Several parents reported that their chief method was to set an example of fearlessness themselves by assuming a matter-of-fact attitude toward the event that frightened the child and by making contact with it in the presence of the child. For example, the mother deliberately approaches and pats the dog which has frightened the child, or walks nonchalantly into the dark room, or plays with the strange toy. Some parents report that they sometimes make a show of jollity and keen interest when dealing with fear in this manner.

Another method reported by mothers consisted of making efforts to give the child himself a technique for coping with the feared event. For example, the mother shows the child, who is much afraid of the wind, how to brace himself so that he will not be in danger of being carried away. To overcome a fear of the dark, a mother used the device of arranging the bedroom lights in such a manner that the children themselves could turn them on if they wished. To facilitate this procedure, she sometimes tried to make a game of turning lights on and off at the time when the children were retiring for the night.

Various methods of introducing the child to the feared event by means of a graded approach or by encouragement and sug-

gestion are also recounted. A mother tries to give an interesting account of the structure and function of a steam roller with a view to enticing the child to approach it for further inspection (after he had shown extreme fear at an earlier time). Some mothers offer to accompany the child into the feared situation with a view to encouraging him to approach it subsequently without accompaniment. Another version of this method consists of familiarizing the child with the situation when the feature that is most frightening is not present; for example, the child is encouraged to inspect the vacuum cleaner when the motor is not running; in another case, the mother encouraged the child to make a game of riding on the vacuum cleaner when the motor was silent.

A variety of other techniques appear in the accounts given by individual parents. One mother apparently did little more than to hold the child in her arms when he was afraid (one would suppose that this would, in effect, condone and encourage the child's fears). Another mother would turn on the Victrola as a means of pacifying the child when he had been frightened. Another parent simply reported that her chief technique was to avoid the use of force in compelling the child to face an event that he feared. One mother used chiefly the technique of removing the feared event if the child's fright seemed to be acute.

Some parents report that they try to prevent as well as to overcome fear by forewarning the child and by preparing him beforehand for an event that might prove to be frightening.

Although it appears that a child would sometimes lose his fear when the event is described to him and when he is given an opportunity to meet it often and to become accustomed to it, this procedure alone will sometimes fail to eliminate the fear. The mother of one three-year-old child, for example, repeatedly tried to explain noises and to encourage the child to examine the objects from which the noises had come. He was encouraged in this way to examine the bus that previously had frightened him. He showed no fear while the bus was silent, but as soon as the engine started he begged to go away and gave signs of fear.

The following instance further illustrates how the fear may

persist even though the cause is explained to the child and he is given a chance to see for himself that there is no danger.

Peter, aged 2 years 7 months, was sitting near a window at lunch in the nursery school on a stormy day. Gusts of wind made the curtains blow into the room. He saw the curtains, made a "queer half-crying sound," displayed a distressed expression, got out of his chair, stepped away from the window, held out his hand to the teacher and said: "Other room, H., other room." He was persuaded to stay in the room. The teacher made the curtains wave by pulling them and let Peter pull them and wave them also. He seemed calm, but continued to watch the windows with apprehension and would not go near them unaccompanied; this fear was noticed on several days thereafter.

Following is an instance in which the strategy of inducing the child to accept what to her seemed the lesser of two evils appeared to be temporarily effective in dealing with fear. A four-year-old girl appeared to be very much afraid of the doctor at the nursery school which she attended. She showed signs of distress, cried, and drew back when it was announced that she should go to his office. The expedient of having two of her playmates precede her while she looked on was tried, but the child still refused to go. The teacher then suggested that the child be given a choice of going with her mother to the office at once, or of going to the office with the teacher at a later time after the mother had gone. The child almost at once decided to go to the office with her mother, rather than wait until the parent had gone. She protested, however, that she was afraid that the doctor would see that she had been crying. (According to the mother, this is the first time that vanity in this form had been shown.) The mother then offered to powder the child's nose and to "make her look fresh," and when this had been done she went to the office without further protest and coöperated quite well during the examination, although she remained somewhat "subdued." As a further aid in overcoming this fear, the teacher arranged to have the child see the doctor several times when he was not treating her in any way.

In the following illustration, an effort was made to induce the child by degrees to cope with a feared event. The child, aged 2 years, was afraid of the toilet and of bathroom fixtures.

The fear of the toilet fixtures appeared to have arisen through a combination of circumstances. The child was spending his first day of the summer at a new country place. The water in the bathroom kept running and could not be turned off. When he was placed on the toilet he cried very hard and appeared to be disturbed by the fact that he couldn't turn off the water as he was accustomed to do at home. To overcome the fear, the mother asked the child merely to stand in the doorway of the bathroom and watch her as she turned on a small flow of water in the faucet. Then she asked him to come closer, to turn on the water himself and then to flush the toilet. The mother reports that two months were spent in gradually inducing the child to play with fixtures that had been the source of much fear at an earlier time.

The procedure of forewarning or preparing a child in advance for an event that might possibly frighten may have the effect of intensifying rather than ameliorating fear. An illustration is the case of a child aged 2 years 6 months who had been brought to a nursery school several times in the subway by a person associated with the school. One morning an opportunity came to ride to school in an automobile; to prepare the child for riding in an auto with a stranger the attendant told the child that a friend was calling for them and that they would all ride to the nursery school together in a car instead of on the subway. When the car came, the child was afraid of entering it; she cried, protested that she did not want to go, and for a period of five minutes she could not be induced to sit down in the car. She remained very quiet during the entire ride, and seemed "very happy" when she was able to leave the car at the nursery school.

Another illustration of the failure of prior discussion to prevent the appearance of fear when the event actually was met appears in the case of a three-and-a-half-year-old child. The family was preparing to visit at the home of a man who was badly crippled through an injury to both his legs and who walked in a very tortuous fashion. This person was described to the child before the visit and the child was told that the man walked in a peculiar manner; no suggestion was made that the child might

be afraid, nor was the child advised not to show any fear. The child was merely informed about the person. When the child arrived at the home with her mother, the door was opened and this man came walking toward them. As soon as the child saw him she screamed violently. The mother took her outside, but she continued to cry for fifteen minutes and refused to explain the reason for her sobs. At the end of this time the mother talked to the child about various things in an effort to get her mind off the frightening event, but when the suggestion was made that they reënter the house the child once more began to cry. This time, however, the mother carried the child with her into the house. The child continued to cry for about five minutes. She then played for a time with some toys that were given to her, but she repeatedly eyed the deformed man and she trembled during the entire time of her stay in the room. In an effort to reassure the child, the man spoke to her in a pleasant way, but this did not seem to overcome her apprehension. She showed marked signs of relief when the visit was terminated.

That an attempt to forestall fear of any event by preparing the child before he meets it may end in failure is further shown in another instance. The child was scheduled to go to the doctor for a minor operation and the mother, before leaving for the office with the child, casually told the youngster where they were going and the reason for the visit. Instead of being calmed by this information, the child became panicky the moment he reached the doctor's office and before he had been examined or even approached by the doctor.

On the other hand, several mothers report that the procedure of forewarning the child has worked well in many instances. The effect of this method will no doubt depend upon many factors, including the manner in which advance information is imparted, the child's ability to understand, the nature of the event the child meets, and the child's past learning.

In a large number of situations reported in the data the parents had a golden opportunity to experiment a bit; to see, for example, whether the child would again show fear if a given noise were repeated, or if the dog that had passed were brought near the

child again, or if a strange object were presented a second time, or if the child were taken again to a strange place that frightened him on his first visit. Only one parent showed considerable interest in experimenting in this way (she deliberately took her child to various animal and bird houses at the zoo after he had shown fear on one occasion, presented a potato to him after he had shown fear on touching a hot potato the day before, presented leaves and plants to him after he had shown fear on being pricked by a thorn at an earlier time). It is possible that other parents did a little experimentation without revealing it in the records. To be sure, nearly all the records describe some measures taken by the parent when the child showed fear, but these consisted more often in coming to the child's aid, or in reassuring him or otherwise taking a hand in helping him to meet the fear, than in trying to discover how the child himself might learn to meet the situation without suggestions or direct aid.

FEAR AS RELATED TO SKILL - 311

Occasional records of the behavior of individual children indicate the importance of everyday skills in the development and overcoming of fears. Much of the decline in fear of the concrete, specific events that loom so large in early childhood—noises, falling, novelty, pain, and tactual shock, and sudden visual phenomena—seems to be due, as we have noted, to increasing ability and understanding. In this connection, the development of specific skills is a significant factor. The case of one child illustrates the effects of lack of everyday skills. This child, a girl aged 8 years, still retained many of the fears of falling that are characteristic of the child aged 2 or 3 years. She was afraid of stepping beyond the first rung of a stepladder; she hesitated to step to the ground from the running board of an automobile. She likewise exhibited fear of possible hurts in her play; she was afraid to catch even a soft ball; she shied away from rough-and-tumble games that are often enjoyed by children of this age.

In all these reactions there runs a common thread of lack of motor skill. The same lack appeared in her ineptness in duties

around the house; she shied from turning on a gas jet, from putting things on shelves. She was an unusually intelligent child, and yet helpless in many motor activities.

Her difficulties, according to the case record, appeared to be due in large measure to over-protection. In early childhood years, when most children suffer many tumbles and bruises, she had been urged repeatedly to be careful; she was restrained from climbing, tumbling, and childish "roughhouse" activities; at the same time, she received much help in her routine activities, such as dressing, dishing out food at the table, and as she grew older, she was restrained from helping with the household chores. Her apparent insecurity and fear in response to many activities that children of her age usually take in their stride appeared to be a result of deficient practice in various motor performances.

OVERCOMING CHILDREN'S FEARS IN A STRANGE SITUATION

The following accounts represent observations made of city children from a day nursery who were spending two months in a summer camp, away from their parents. These observations are not included in the data that have been discussed hitherto. The records were submitted by the teacher who was in charge of the children and who made an effort, in so far as her duties permitted, to write down some of the characteristic fear behavior of the children.* Many of the items are self-explanatory and are presented much in the style of the original records.

Walter, 5 years old, had bragged considerably about his ability to swim like his big brother. The first time that the group was brought to the water he refused definitely to go in it or near it. Other children said: "Thought you could swim." Teacher says: "He doesn't have to do it if he doesn't want to."

Ten minutes later. Other children were all in the water. Teacher went over to child and suggested that he join them. He backed away, said that wasn't the kind of water he liked to swim in. J. P. said: "Well, what water *do* you like to swim in?" His reply: "Bathtub water."

He refused to go in the second day. On the third day J. P. took him for a walk with two other children and enticed him into the water for

* The observations were made by Mrs. Joan Pearson of the Child Development Institute, Teachers College. The authors are grateful to Mrs. Pearson for this contribution.

paddling. He progressed from this within two weeks to going in almost up to his hips. The breaking out of pink eye prevented any more swimming.

David, aged 2 years 6 months, persisted in talking in the bedroom and was told that if he disturbed the others he had better go out on the porch and do his talking. He agreed readily, put on slippers and dressing gown and went out to the porch happy and singing. J. P. took him out and left him, saying, "Get all your noise and singing over and then come in and go to bed."

J. P. had barely got back into the house when the child called, in obvious distress, saying, "Pierce come here, Pierce come here."

J. P. returning: "What's wrong?" Child: "There's something dig-dig-diggeting at me." "Dig-dig-diggeting at you?" "Yes, I can hear it." Both listen for a moment. J. P. after hearing crickets, "Do you mean that noise?" "Yes." Tears in his eyes. "Well, they're not diggeting at you. That's the way they talk—those are crickets. They always make that kind of a noise." "Well, I want to go to bed." "All right. To-morrow I will find a cricket for you and let you see it in my hand." "All right!" Went in.

The records include instances of apparent "problem" behavior which seemingly could be attributed in part to fear. A girl aged 3 years 3 months, for example, consistently refused to join with other children in lying down on blankets in the sun on fine days. Her behavior appeared to be quite obstinate, but as days went by, the child's weeping, obvious discomfort, appealing stares, and ready response to suggestions that she might rest indoors instead, strengthened the impression that her refusal was not due so much to perversity as to fear.

A clue to her behavior was found on a later day. While eating lunch, the youngster cried out, "What's that? What's that?" The teacher, whose back was turned and who was busy with other children, merely replied, "It's just food; eat it, and don't make a fuss." A moment later the teacher turned around and beheld the child holding her spoon in mid-air and staring fixedly at it. Other children had also stopped eating and were staring at the child. The teacher looked at the spoon, and saw two large ants on a piece of potato that the spoon contained. When the reason for the child's refusal to eat was discovered, and she was permitted to take another plate, "the child's expression of

relief was so obvious" that the teacher burst into laughter, in which the child also joined. The child then promised, on request, to tell the teacher if anything else bothered her. She was reminded of this promise the next day when she again refused to lie on a blanket in the sun. It developed that her refusal to do so was due to her fear of ants and other insects. When this had been disclosed, a marked change in the child's attitude soon appeared. She learned to show no hesitation in calling the teacher when an ant was near her. The teacher, utilizing this confidence, took steps to accustom the child to ants; she would herself pick up an ant, hold it in her hand, allow it to crawl on her body while the child inspected it. Within a few days the child seemed to have overcome her fear.

Another child made outcries at night and refused to sleep. The cause, it appeared, was fear of the whining of the wind. The fear was apparently overcome after the teacher had talked with the child and assured him that there was no danger. In another instance, three different children, all approximately two and a half years of age, gave difficulty in connection with bathing. All were afraid of the hand shower that was used. Their fears were overcome after some guidance. They were not compelled to stay long in the bath, each was given an opportunity to hold the spray for the other, and at first only a weak flow of water was administered. Within from seven to ten days' time, all were taking showers in a normal way, with the water flowing full force.

RECAPITULATION

The reader can readily see that the foregoing comments with regard to methods of overcoming and preventing fear do not go deeply into the subject. Some comments with regard to methods by which fears are overcome will be made in later divisions of the present monograph. To deal with the topic in a thorough way would, however, require more pertinent data than have been gathered in the present study, and it is planned to deal more intensively with the problem in later approaches to the investigation of fear. The data reviewed thus far in this study sug-

gest that various devices, such as explanation and reassurance, forewarning, efforts to introduce the child by degrees to the feared event, instructions designed to help the child to acquire techniques for dealing with the feared object, an example of fearlessness by others, the use of distractions and counter-stimuli, may be used with varying promise of success in helping the child to cope with his fears. There is need of further study to define specific ways through which such methods may be made effective. The chief aid in overcoming fear seems not to be any of these devices, however.

According to results that will be presented in a later section dealing with adult reports of childhood fears, it seems that fears are overcome more often through activities that the child undertakes on his own account or through changes that come with added growth and experience than through the aid of adults. We have seen, also, from tables presented earlier in this chapter, that some fears increase while others wane as the child grows older. During the course of the child's own normal growth and experience—as distinguished from influences specifically designed by adults to help the child to combat his fears—the child seems to outgrow some fears and to acquire others. With added growth and experience he seems to become accustomed to many events that at first frightened him. Undoubtedly, more of his fears are overcome by the mere fact that he is growing stronger and wiser than by devices designed by adults to alleviate his fears. In some instances of mild or temporary fear, it is perhaps just as wise to let the child's fears take their own course. But one can hardly propose this treatment for occasions when the child is acutely distressed. There would be value in knowing more about methods of overcoming and preventing fear in the case of children whose fears became a chronic problem.

Part II

FEARS REPORTED BY CHILDREN THEMSELVES AND
FEARS RECALLED FROM CHILDHOOD BY ADULTS

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and
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CHAPTER I

FEARS RECALLED BY ADULTS

INFORMATION regarding the fears that older persons remembered from childhood was obtained from 303 individuals who submitted replies to the questions reproduced in Figure 1. The majority of these individuals were college or graduate students, enrolled at Barnard College, Hunter College, New York University, and Union Seminary, all in the city of New York; the remaining persons were graduate students and staff members associated with the Child Development Institute. It will be noted that these subjects represent a select group from the point of view of intelligence. The ages of those who submitted replies ranged from 17 to over 35 years; a majority of the individuals were quite young, within the age range of 18 to 21 years. Whether persons of this age should be called adult, post-adolescent, or adolescent depends upon arbitrary definitions, but all had at least passed the years usually regarded as the age of childhood.

Each person who submitted a report received a copy of the form reproduced in Figure 1, which includes, it will be noted, the statement that replies need not bear the writer's name. The copies were distributed among several college classes, and the students wrote their replies during class time. The remaining persons were given the forms and were asked to hand in their replies to their instructors or to leave them in the experimenters' mail box. When the forms were distributed in class, the instructors were asked to allow the students half an hour in which to write their replies.

The reports given by the subjects were written on blank sheets of paper provided for that purpose. Although each subject had before him a copy of the form reproduced in Figure 1, it became

FIGURE 1

Form Given to Individuals Who Were Asked to Submit Written,
Anonymous Reports of Fears Recalled from Childhood

We should like to ask your help in obtaining data in a study of fears. At present we are getting material from several sources.

We should like to get descriptions of fears remembered by adults from their own childhood. We are interested in reports on the following questions:

1. What is the earliest fear you remember? (Age when it occurred, apparent cause, history of the fear, time when it was overcome, if overcome, how, etc.). Were you living in city or country?
2. What was the most intense fear of your childhood? (Age, cause, history, effect on behavior, etc.)
3. Name other fears which were also quite intense. (Origin, history, effect, how overcome, etc.)
4. What other fears occurred during your childhood? (Describe in specific detail as many as possible.)

As far as possible, give information also on such questions as: Was any fear a major source of unhappiness during childhood? At what age? What was the original occasion or cause of the fear? What were the chief causes of fear, the chief helps in overcoming fear? What fears from childhood have persisted into adult years?

The reports need not bear any signature other than Male or Female, but should give present age.

We shall be grateful for your help.

apparent, in later examination of the data, that this method might have been improved upon. As will be seen in the following discussion of the results, many individuals failed to give complete information with regard to the causes, age of first appearance, and the disposal of each of the fears that they recorded. Undoubtedly, if a definite form had been provided for the recording of each fear, many of these omissions might have been forestalled. The procedure that was used seemed, however, to be well suited to the main purpose of the inquiry, namely, to obtain information concerning the fears the individuals could recall, as distinct from information concerning the causes and the course of the fears.

METHODS OF TABULATING

To compare the findings in this division of the study with the findings obtained from reports by adults of fears that they had observed in children, it was necessary to use similar categories in classifying the data. There were some difficulties, however, in accomplishing this. A fear exhibited by someone else, as described by an observer, obviously is not likely to be presented in quite the same terms as a fear experienced and described by the person himself. In the former instance, the observer simply notes what it is that confronts the individual who seems to be afraid and what symptoms of fear the individual exhibits. The person who is experiencing the fear might have private reasons (or rationalizations) for his fright that the objective observer cannot ascertain. When an individual himself reports his fear there may be a good deal of discrepancy between the description of the immediate event that he fears and the reason that he gives for his fear of this event.* This makes it difficult, in classifying the fear, to take account both of the particular event that is feared and of the factors that are assigned introspectively as the original cause of the fear.

In order to provide a classification that would resemble as closely as possible the categories used in tabulating the fears reported in earlier sections of this investigation, it was decided to approach the data from two points of view. The first classification of the fears was made as nearly as possible in terms of the immediate events in response to which fear was shown. For example, several subjects report that they were afraid of snakes. Such fears can readily be classified under the heading of "animals," as described in earlier sections. In reporting the cause of the fear, however, one subject reports that the fear originated when he was actually startled by the sight and sound of a hiss-

* It can readily be recognized that reports of the person who observes another objectively and of the person who gives an introspective report of his fear may both fail to give a true account. Even if the objective observer has had an opportunity to watch his subject from earliest childhood he is not likely to be able to ascertain all the factors that have contributed to a fear reaction. The introspective observer, likewise, will undoubtedly have difficulty in recalling all the events in his past experience that influence his present behavior.

ing snake lying in his path; another reports no actual encounter with a snake, but relates that his fear was due to warnings that snakes were dangerous; another reports that his fear dated back to a time when he saw venomous snakes portrayed in motion pictures. To obviate the need of the indefinite number of sub-categories that would be required if an effort were made to class each fear both in terms of the feared event and in terms of its reputed origin, the procedure used in classifying items such as the above was simply to tally all the fears of snakes, regardless of origin, under one heading. A second and separate classification was later made of apparent causes.

CATEGORIES USED IN CLASSIFYING RECALLED FEARS

As noted above, the aim in classifying the fears reported by adults was to adhere as closely as possible to the categories previously used in classifying the fears of young children. Certain additions and revisions were necessary, however, as described below. The categories that were revised are identified by their original numbers as described on pages 21 to 32.

1c and 1d: In the previous section, "animals other than dogs" included a large proportion of domestic animals, such as horses, cats, cows, and the like. The adult records included a large number of snakes and also many animals that were remote from the environment of the child, such as lions and tigers. No revision was necessary, however, to accommodate these.

81: To the group of categories dealing with lights, flashes, reflections, etc., a separate category, "lightning" (as distinct from thunder and lightning together) was added.

11y: Thunder and lightning, designated as 11y, was added to the categories dealing with noises.

11m: This identification was given to a new category to include what were described as "mysterious noises."

Other categories that were added included:

26b. Policemen and men in uniforms.

26c. Intoxicated persons, actually encountered by the child.

26y. Objects associated with persons threatening to inflict harm.

29b. Same as 29 (Dangerous or possibly dangerous concrete situations, such as danger of traffic accident, drowning, etc.) but expressed in subjunctive mood, e.g., If an airship should fall, it might hit me; if I took an ocean trip, the boat might sink.

- 29c. Fear of fighting, getting into fights with others, being attacked by schoolmates.
- 29d. Stories described by the subject as being told by others with the deliberate intent of frightening the child.
- 29e. Noises and gestures deliberately made to frighten.
- 29f. (57) Fights between others.
- 31b. Sight of injured people.
- 31c. Sight of animals being injured or killed.
- 32y. Objects or events definitely described as feared because of warnings.
- 37x. Objects associated with nightmares and dreams.
- 38b. Apprehension over personal appearance.
- 38c. (58)* Worries over sexual inadequacies.
- 38d. (50) Fear of meeting people, talking to people, performing in the presence of others.
- 41b. (55) Fear or foreboding over ill health, present or future.
- 41c. (55) Fear of insomnia.
- 41d. (55c) Ill health through superstitious causes.
- 45b. (51) Relative will die, be taken ill, be taken away.
- 49c. (56a) God, angels, and saints.
- 49d. (56b) Devils and hell.
- 49e. (60) Superstitious symbols.
- 50. (53) Motion picture scenes and stories, characters and events met in moving pictures, and stories.

Table I shows the frequency and relative frequency of various classes of fears reported by adults. Tallies are also given for the frequency of various fears reported as "earliest," "most intense," and "still persisting." Under the latter heading, it will be noted, the table shows that no information was given in the case of a large number of fears. The figures in Table I represent a tally of one only for one or several fears within the categories identified by Arabic numerals. For example, if a person wrote that he was afraid of "cows, horses, and pigs," this report is represented by a tally of one under the heading of "animals" in Table I. A report of fear of "kidnappers, burglars, and murderers" was likewise given a tally of one under the appropriate heading. However, when the original tallies were made on which

* The number identifying each category indicates the general class of fears with which it was grouped (in terms of the groupings on pages 21 to 32). The number given in parentheses indicates the tentative identification given to a category in the original treatment and tallying of the results.

TABLE

Frequency and Relative Frequency of Various Fears Reported by 303 Adults, In
Concerning Fears Remembered by the Adults from Their Childhoods; Also Fre
Remembered," "Most Intense,"

SITUATIONS IN RESPONSE TO WHICH FEAR OCCURRED	FREQUENCY OF VARIOUS								
	All Fears Reported			"Earliest Fears"			"Most Intense"		
	All	Men	Women	All	Men	Women	All	Men	Women
	N	N	N	N	N	N	N	N	N
I. Animals (including common domestic as well as remote animals)	177	51	126	45	14	31	39	13	26
II. Specific objects and events, cause unknown ..	12	5	7	5	2	3	2	1	1
III-VII. Sudden, rapid or unexpected motion, lights, shadows, flashes, etc. (except lightning) .	9	4	5	4	4	0	0	0	0
IVx. Lightning	9	1	8	2	0	2	3	0	3
VIII. Noises and agents of noise	32	7	25	12	3	9	6	3	3
IX. Falling, high places, danger of falling	52	17	35	15	7	8	10	1	9
X. Pain, medical treatment, etc.	59	30	29	16	5	11	9	6	3
XI. Strange objects and situations	14	6	8	5	2	3	3	0	3
XII. Strange persons and unfamiliar variations connected with persons, also masks, etc.	33	16	17	9	4	5	4	1	3
XIIIa. Threat or danger of harm from persons, fighting, pursuit by persons	41	24	17	5	3	2	8	4	4
XIIIb. Fire	19	5	14	6	3	3	7	2	5
XIIIc. Danger of accident or injury in situations (as distinct from fighting, threatening persons) drowning, diving, traffic, also witnessing accidents and injuries to others through accidents .	110	41	69	25	14	11	19	8	11
XIVa. Specific individuals described to child as harmful, events feared due to warnings	3	1	2	1	1	0	0	0	0
XIVb. Apprehension over punishment for misconduct.....	25	17	8	3	2	1	6	4	2
XIXa. Dying and ill health (in absence of malady or apart from fear of specific accident or dangerous persons or situations)	31	13	18	5	1	4	8	3	5
XXIa. Loss or death of relatives, being abandoned by parents	21	8	13	5	1	4	8	4	4
XVIII. Personal failure, inadequacy, fear of ridicule, of appearing or performing before others, lack of information about sex	90	29	61	11	4	7	22	4	18
XVII. Dreams, nightmares	19	5	14	3	0	3	4	0	4
XIXc. Robbers, kidnappers and other criminal characters and/or their activities	40	12	28	9	1	8	12	7	5
XIXb. Death, corpses, superstitious fears assoc. with death	24	9	15	5	3	2	7	2	5
XXIb. Being alone and imaginary dangers when alone	18	4	14	5	1	4	0	0	0
XX. The dark, alone in dark, imaginary creatures feared when in the dark	125	41	84	65	20	45	38	9	29
XXIII. Supernatural or imaginary creatures (not incl. creatures mentioned only in connection with being in the dark or being alone)	43	14	29	13	8	5	3	1	2
XXIV. Characters in stories and movies	11	5	6	3	0	3	3	2	1
Total number of fears not including repetitions ..	1,017	365	652	277	103	174	221	75	146
Total number of fears including repetitions of similar fears	1,112	400	712	289	104	185	234	77	157

* The sum of tallies under the headings "earliest," "most intense" and "still persists" does not corre i.e., a given fear described both as "most intense" and as "earliest" was tallied under both headings; more

† No information as to whether fear was overcome or still persists.

‡ The denominator used in computing the percentages under the headings "earliest," "most intense total number of fears included in the study as a whole.

I

cluding 114 Men and 189 Women, in Written, Anonymous Replies to Questions
quency and Relative Frequency of Fears in Each Category Reported as "Earliest
and as "Still Persisting."

FEARS *				RELATIVE FREQUENCY: RATIO OF NUMBER OF FEARS IN EACH CLASS TO TOTAL NUMBER OF FEARS ‡												Ratio Persisting to Total Re- ported in Each Category ‡
"Still Persist"			No Information† All ss.	All Fears Reported			"Earliest Fears"			"Most Intense"			"Still Persist"			
All	Men	Women		All	Men	Women	All	Men	Women	All	Men	Women	All	Men	Women	
N	N	N		%	%	%	%	%	%	%	%	%	%	%	%	
88	25	63	32	17.4	1.4	19.3	16.2	13.6	17.8	17.6	17.3	17.8	25.2	24.8	25.4	49.7
2	0	2	2	1.2	1.4	1.1	1.8	1.9	1.7	.9	1.3	.68	.57	0	.8	16.7
2	1	1	1	.88	1.0	.76	1.4	3.9	0	0	0	0	.57	1.0	.4	22.2
4	1	3	2	.88	.3	1.2	.72	0	1.1	1.4	0	2.1	1.1	1.0	1.2	44.4
11	3	8	5	3.1	1.9	3.8	4.3	2.9	5.2	2.7	4.0	2.1	3.2	3.0	3.2	34.4
28	7	21	11	5.1	4.7	5.4	5.4	6.8	4.6	4.5	1.3	6.2	8.0	7.0	8.5	53.8
26	13	13	4	5.8	8.2	4.4	5.8	4.9	6.3	4.1	8.0	2.1	7.4	12.9	5.2	44.1
2	0	2	2	1.4	1.6	1.2	1.8	1.9	1.7	1.4	0	2.1	.57	0	.8	14.3
8	2	6	12	3.2	4.4	2.6	3.2	3.9	2.9	1.8	1.3	2.1	2.3	2.0	2.4	24.2
9	5	4	15	4.0	6.6	2.6	1.8	2.9	1.1	3.6	5.3	2.7	2.6	5.0	1.6	22.0
4	1	3	5	1.9	1.4	2.1	2.2	2.9	1.7	3.2	2.7	3.4	1.1	1.0	1.2	21.1
41	11	30	20	10.8	11.2	10.6	9.0	13.6	6.3	8.6	10.7	7.5	11.7	11.0	12.1	37.3
1	0	1	1	.29	.28	.3	.36	1.0	0	0	0	0	.28	0	.4	33.3
3	2	1	13	2.5	4.7	1.2	1.1	1.9	.57	2.7	5.3	1.4	.85	2.0	.4	12.0
9	3	6	11	3.0	3.6	2.8	1.8	1.0	2.3	3.6	4.0	3.4	2.6	3.0	2.4	29.0
3	0	3	5	2.1	2.2	2.0	1.8	1.0	2.3	3.6	5.3	2.7	.85	0	1.2	14.3
36	11	25	19	8.8	7.9	9.4	4.0	3.9	4.0	10.0	5.3	12.3	10.3	11.0	10.1	40.0
3	0	3	8	1.9	1.4	2.1	1.1	0	1.7	1.8	0	2.7	.85	0	1.2	15.8
9	2	7	5	3.9	3.3	4.3	3.2	1.0	4.6	5.4	9.3	3.4	2.6	2.0	2.8	22.5
10	5	5	6	2.4	2.5	2.3	1.8	2.9	1.1	3.2	2.7	3.4	2.9	5.0	2.0	41.7
5	0	5	8	1.8	1.1	2.1	1.8	1.0	2.3	0	0	0	1.4	0	2.0	27.8
37	7	30	15	12.3	11.2	12.4	23.5	19.4	25.9	17.2	12.0	19.9	10.6	7.0	12.1	29.6
4	1	3	4	4.2	3.8	4.4	4.7	7.8	2.9	1.4	1.3	1.4	1.1	1.0	1.2	9.3
4	1	3	5	1.1	1.4	.92	1.1	0	1.7	1.4	2.7	.68	1.1	1.0	1.2	36.4
349	101	248	211													
390	112	278	246													

spond to the total under the heading "all fears recorded;" the former categories are not mutually exclusive, over, not all subjects reported a fear under each of the various sub-headings.

and "still persists" represents the total number of fears reported under each of these headings and not the

Table I is based, a separate notation was also made of repeated items within the same category, so that a count could be made not only on the basis described above but also of all items reported. At the foot of Table I are given the totals obtained when a separate tally was given to all items (e.g., a tally of three rather than one in the case of each of the examples given above. This final tally corresponds to the final tally of causes, as presented in a later table).

The general classes of fears represented in Table I are designated by Roman numerals corresponding, in the main, to the Roman designations of the categories in an earlier section dealing with the fears of young children as reported by adult observers. Some departures have been made, however, from the order of earlier tables. A few categories that were presented separately in earlier tables are combined in Table I and other categories presented as a unit in earlier tables have been subdivided. It will be noted that the categories are not presented in numerical order, from I to XXIV. As the table now stands, an effort has been made to make a rough separation between fears of concrete objects and events or commonplace dangers at one extreme as distinguished from remote, vicarious, or imaginary dangers at the other. A summary of the specific groups of fears represented in each class shown in Table I follows:

- I. Animals (1a dogs, aggressive, non-threatening; 1b aggressive or threatening dogs; 1c other animals, unaggressive as in 1a; 1d other animals; aggressive or threatening, as in 1b).
- II. Specific objects and situations, cause unknown (2x specific objects not noted as strange, associated with noise, pain, etc., cause unknown; 3x clouds of smoke; 4x situations with cause unknown, as in 2).
- III-VII. Sudden, rapid, or unexpected movements, also lights, flashes, shadows, reflections (except lightning); (5x sudden or unexpected movement of objects; 5y sudden movements of persons; 6 lights and flashes; 7 shadows and reflections; 8 sudden disappearance of person—as distinct from being abandoned by parent; 9 rapidly approaching object; 10 sudden or rapid motion plus noise).
- IVx. Lightning (81).
- VIII. Noises, agents of noise, objects and events feared by reason of association with noise (11a mechanical proximate noise; 11b vocal proximate noise; 11c vocal noise from distant or remote source; 11t

- thunder; 11y thunder and lightning; 11m mysterious noises; 11ax agent of non-vocal noise; 11bx human agent of vocal noise).
- IX. Falling, danger of falling, high places, etc. (12a falling, slipping, sliding, etc.; 12x high place, possibility of falling; 12b going up or down in elevator).
- X. Pain, painful situations, objects that produce specific pain stimulus, persons producing specific pain stimulus or associated with painful stimulus; also, tactual shock, (13 persons inflicting pain—other than medical or corporal punishment; 13x corporal punishment, person who inflicts punishment; 14a medical situation as a whole; 14b doctor, nurse, person associated with medical treatment—not tallied if fear is already recorded under 14a; 14c medical instruments and apparatus—not tallied if fear already has been tallied under 14a; 15 painful experience, tactual shock; 15x objects associated with 15; 16 painful situations other than medical—e.g., involving specific painful or possibly painful stimulus, such as having head washed, having hair cut, etc.; 16x objects associated with specific pain stimulus—other than medical).
- XI. Strange objects and situations (17 strange objects; 18 strange situations; 19 unfamiliar variations associated with familiar objects).
- XII. Strange persons and unfamiliar variations connected with familiar persons (20 strange persons not advancing toward or accosting child; 20a beggars, etc.; 21 persons accosting or advancing toward child; 22 persons lifting or interfering with child; 23 unfamiliar variations connected with familiar persons; 24 queer, ancient, wrinkled, deformed persons; 25 persons with false faces, costumes, masks).
- XIIIa. Threat or danger of harm from specific persons, fighting, pursuit by persons, being confined by persons (26 specific threat of harm from other persons; 26c drunken persons; 26y objects associated with harmful persons; 26b specific men in uniform; 27 being shut in small space; 29c fights, attacks by others; 30 playful threats and gestures; 29f (57) fights between others).
- XIIIb. Fire (28).
- XIIIc. Danger (real or imagined) of accident, harm, or injury in specific situations or through specific non-personal causes, such as dangers of traffic, accidents, drowning, etc. and sight of injury befalling others: (29 dangerous situations and possibilities of bodily injury in traffic, etc.; 29b same as 29 but in subjunctive mood: "if I should go on ship, it might sink"; 31 sight of blood; 31b sight of injured people; 31c sight of injured animals or of animal being killed).
- XIVa. Specific individuals and events feared due to warnings: (32 events feared due to warnings; 33 specific persons described as dangerous or harmful).

- XIVb. Apprehension over punishment for misconduct (equivalent to fear apparently due to previous unspecified disciplinary measures in earlier tables); also fears due to reported feelings of guilt (34).
- XV. Signs of fear in others (35). (This category is not represented.)
- XVI. Loss of property (36). (No fears occur in this category.)
- XIXa. Fear of dying or ill health (in absence of specific malady or description of specific accident or harmful situation or person; 41 dying; 41b foreboding over present or future ill health; 41c insomnia; 41d ill health through superstitious causes).
- XXIa. Loss or death of relatives; being abandoned by parents (45 abandoned by parents; 45b relative will die, be injured, kidnapped or grow sick).
- XVIII. Fear of or apprehension over personal failure, ridicule, appearing or performing in public (38 failure in school, feeling of inadequacy, worry over future status; 38b anxiety over physical appearance; 39 ridicule and embarrassment; 38c apprehension over sexual inadequacies; 38d appearing before or performing in presence of a group).
- XVII. Dreams and nightmares (17), contents of dreams and nightmares (37).
- XIXc. Robbers, kidnappers and other criminal characters and their activities (40).
- XIXb. Fear of death, corpses, superstitious events associated with death (42).
- XX. The dark, being alone in dark, imaginary creatures or dangers feared when in the dark (43 being in the dark or alone in the dark; 46 darkness plus imaginary characters other than animals; 46a darkness plus imaginary animals).
- XXIb. Being alone and imaginary dangers when alone (44 being alone; 47 being alone plus mention of imaginary creatures feared when alone; 47a alone plus imaginary animals).
- XXIIIa. Supernatural or imaginary creatures not including creatures mentioned only in connection with being alone or in the dark (49 imaginary or supernatural characters except as indicated in following; 49b ghost of person now dead and disliked by the child when the person was alive; 49c God, angels and saints; 49d the devil and hell; 49e superstitious symbols).
- XXIV. Characters met in stories, radio programs, and motion pictures (50), and projection of self into action and dangers of stories and pictures heard or seen.

A noteworthy feature of the results shown in Table I is that the fears as recalled by adults exhibit many of the same trends that were observed among the oldest children whose fears were

reported by adult observers. Many of the concrete events frequently observed as apparent causes of fear among the youngest children described in earlier sections received but little mention in the fears recalled by adults. Noises, sudden and unexpected movements, lights and flashes, falling and high places, specific strange objects, situations and persons account for only a small number of the fears reported in the present results. (It is possible that some of these events would have a larger representation if the adult had been able to trace the origins of all of his fears.)

Fear of animals represents the largest single group of fears when the results are classified as in Table I. Among the reports classified under this heading there were many fears of animals that are not ordinarily met in daily life, such as poisonous reptiles and lions and wolves. It seemed obvious that many of these fears were not due to first-hand encounters with animals but had arisen through vicarious factors. Undoubtedly, many animal fears might be regarded as analogous to fears of supernatural or mysterious characters. If a sufficient amount of detailed information had been given in the description of each fear it might have been possible to distinguish between such fears and the fears arising through actual startling or frightening encounters with animals. Because of lack of such information in all instances it was not possible to make this distinction in a systematic manner, and therefore all reports of fears of animals were tallied together. An exception could obviously be made when animals that were definitely fictitious were described. Fears of such creatures as werewolves, mermaids, and flying bears were not tallied under the heading of animals, but under the heading of supernatural and imaginary creatures.

When all fears of possible bodily harm through specific circumstances—such as traffic accidents, drowning, and fire, fights with others, activities of specific persons who threaten to commit harm or who have been described as dangerous, as well as fear of dying or ill health (in the absence of immediate maladies or dangers) and fear of punishment for misconduct—are added together the resulting total is 229, or over 22 per cent of all fears

reported. Among these fears, as was noted in the case of fears of animals, there were many that were not, and perhaps could not be, traced to any corresponding harrowing event that actually had befallen the child.

Fears of the dark and of the imagined creatures or dangers it might contain represent a relatively large proportion of the fears reported, and rank second only to fear of animals. Of the 125 fears of this class, 65, or slightly more than 50 per cent were also described as "earliest recalled" fears; the number reported as "most intense" is a good deal smaller (38).

A relatively large number of fears, representing about 9 per cent of all items reported, appear under the heading of fear of failure, inadequacy, apprehension over future status, apprehension over meeting people in social situations or performing in public. It may be noted that of the 90 fears of this character that were reported, 22, or about 25 per cent, were also designated as the "most intense" fear that the individual could recall.*

A number of the categories included in the latter part of the table include fears that quite definitely deal with imaginary, remote, or vicarious dangers. When a tally is made of fears in this class—including dreams and nightmares, criminal characters, being alone in the dark, death and corpses, supernatural or other mysterious or imaginary creatures, and characters and events in stories and motion pictures—the total is 280, or slightly more than 28 per cent.

"EARLIEST FEARS"

It has already been noted that a large number of individuals described fear of darkness and of events associated with darkness as their first remembered fear. Of the 277 fears reported as earliest, 65, or 23.5 per cent, were fears associated with darkness. The next largest group, including 45, or 16.2 per cent, represents fear of animals; next in order, with a relative frequency

* Although the reports were anonymous, there is reason to believe that many subjects omitted mention of fears of an "intimate" character. To obtain an account of anxieties and worries centering around topics that have long been taboo would no doubt require a more intensive and ingenious method of inquiry than that used in the present study.

of 9 per cent, come fears of bodily injury through accidents, fighting, drowning, etc. The remaining fears under the heading of "earliest" are scattered among the other categories.

There is a marked discrepancy between the earliest fears of childhood, as recalled by adults, and the earliest fears of children as observed and reported by others. The comparison on the following page emphasizes this discrepancy.

In this comparison is shown (from Table V, page 52) the relative frequency of various fears of children from birth to the age of two years, as reported by parents and other adults who observed the children; at the right is repeated the relative frequency of various earliest recalled fears as shown in Table I. The categories are abbreviated and abridged.*

The comparative summary indicates, as has been noted in previous sections, that the fears exhibited by infants occurred predominantly in response to such concrete and temporary events as noise, falling and danger of falling, pain, and strange objects and situations. On the contrary, such events are not frequently mentioned by the adults when they describe their earliest recalled fears.

It is possible, in some instances, that the discrepancy is due chiefly to a difference in the manner in which the fear is described. For example, a child is described as showing fear in response to the loud noise of a truck: according to the method of classification used in this study, this fear would be classed under the heading of noises. An older person, on the other hand, might recall fears not unlike this, but describe them as fears of being run over by a truck. Since no mention is made of the noise in this account, the fear would be classed under the heading of danger of bodily harm. If the young child, whose fear is being reported by others, were sufficiently articulate he might also ignore the noise in giving his own account of the fear and report that he was afraid of being hurt by the truck. In both instances the

* In Table I it will be noted that the total number of earliest fears is 277. The discrepancy between this figure and the total number of subjects who reported is due to the fact that some individuals stated that they had no recollection of their earliest fears, and a few others failed to take note of the question. A similar discrepancy, on similar grounds, appears in the case of "most intense" fears.

CHILDREN'S FEARS

Relative Frequency (in Percentages) of Various Fears

As Reported by:

	Adults Who Observed and Recorded the Fears of Children Aged 0 to 2 Years. (Adapted from Table V, Part I, page 52)	Adults Who Described the Earliest Fears That They Could Recall from Their Own Child- hoods. (Adapted from Table I, page 112)
	N: 58 children	N: 303 adults
Animals	6.7	16.2
Specific objects and situations	2.6	1.8
Sudden, unexpected, rapid motion, lights, shadows, reflections, flashes	5.6	2.1
Noises and agents and events associated with noise	25.4	4.3
Falling, high places	12.7	5.4
Pain	17.9	5.8
Strange objects and situations	10.8	1.8
Strange persons	13.4	3.2
Danger or threat of bodily injury through per- sons, accidents; also illness, dying, etc.; fear due to warnings .....	.4	16.3
Loss of relative, being left alone or abandoned by relative *	1.5	1.8
Personal failure, ridicule, apprehension over future status, appearing or performing in public	0	4.0
Dreams and nightmares	0	1.1
Robbers, kidnappers, etc.	0	3.2
Death, corpses, events associated with death Being alone and imaginary dangers when alone	0 (1.5)†	1.8
Darkness, being alone in the dark, imaginary events feared in the dark	1.9	23.5
Supernatural and imaginary creatures (other than those mentioned specifically in connec- tion with being in the dark or being alone) .	1.1	4.7
Characters met in or recalled from stories, movies, etc.	0	1.1

* For the young children, the figure represents the category "being alone, being abandoned"; for the adults, "loss or death of relatives."

† Represents "alone and abandoned" as above.

basis of the fear may have been an involuntary and irrational reaction to noise; the subject's claim that he was afraid he might get hurt may have been more in the nature of an after-thought, a rationalization of his reaction at the moment that his fright first occurred.

The suggestion that similar events may have been described in different terms accounts for only a part of the discrepancy between the two sets of data summarized above. In a later table, childhood fears as recalled by adults are compared with child-

hood fears during the ages of 4 and 5 years as observed and reported by others. In this comparison there is a good deal more resemblance than in the comparisons with children from birth to the age of 2 years, as presented above. We have already noted in an earlier section that the fears of children, as observed and reported by others, exhibit an increasing proportion of fears of an imaginative, vicarious, or anticipatory character as children grow older. Fears of this character also predominate in the reports of childhood fears recalled by adults. The adult, in recalling his earliest fears, does not recollect many of the fears he exhibited in early infancy in response to first-hand experiences with noise, pain, falling, strange events, sudden and unexpected movements.* He is more likely to recall the fears and concepts of danger that occurred to him after the age of four. Moreover, as will be noted in data that will be presented in a later section, some of the prominent fears recalled by adults represent concepts that are not clearly recognized by the child himself until late in childhood.

Just what is the history of a particular fear, both from the point of view of the objective events that caused or influenced it, and from the point of view of the child's own subjective elaborations and concept of his fear, can perhaps never be traced in an adequate manner. Several factors, many of which have been suggested in earlier discussion, complicate the problem. From an objective point of view, to be sure, it is possible to describe the situation confronting the child when he first showed signs of fear, but the observer cannot tell just what were the crucial features or nuances of the objective event; neither can he appraise all the contributing factors from the child's past or contemporary experience, nor the influence exerted by the condi-

* That an adult should fail to have a distinct recollection of fears during the first two years of life is not, of course, surprising. Few adults remember many events that occurred during this time. Studies of early memories (without specific emphasis on fears) indicate that some individuals apparently can trace some memories back to the second, and, in rare instances, to the first year of life, but even so they recall only a few of the many events that transpired at that time of life; moreover, recollections from the third and fourth year of life are usually more frequent.

tion of the child's organism at the time when the objective stimulus first became effective. The person who exhibits the fear would have similar difficulties in designating all the factors that converge to produce his particular reaction of fear. The longer the history of his susceptibility to fear of a given event the more inadequate is his account of it likely to be. Discrete events that contributed to its origin are likely to be forgotten or to become telescoped in memory; as suggested above, the individual may devise a reason for his fear that does not give due recognition to his original involuntary and unreasoning reaction.

As has been indicated, the subjects were asked not only to describe their earliest recalled fear, but also to recollect, as nearly as they could, the age at which each of their reported fears first appeared. In some instances the subjects reported that they were unable to give this information, and in many instances they took no note of the question. In the case of 49 per cent of the fears, the records contained no information as to the exact or approximate age when the fear first arose; 21 per cent of all fears were described as first appearing between the time of birth and the age of 5 years, 25 per cent between the ages of 6 and 10 years, and 5 per cent after the age of 10.

The information with regard to age of first appearance of fears was tabulated to find the proportion of fears of each category that appeared at various times. The gross age ranges given above were used in this tabulation. Table II summarizes the data so obtained. The table shows the number of fears of each class and the percentage of these that were attributed to various age levels. (The actual numbers corresponding to each percentage are not reproduced; these numbers could readily be derived from the figures that are given.)

It will be noted from Table II that fears attributed most frequently to the age range from 0 to 5 years conform more closely to the fears reported for these ages in earlier sections of this paper than do the fears that are predominantly attributed to later years. Among the events that have a large representation in the 0-5 age range are specific objects and situations, noises, falling

TABLE II

Age Ranges at Which Fears First Occurred as Reported by 303 Adults Who Described Fears Remembered from Childhood (Including a Tally of Fears for Which No Information as to Age of First Appearance Was Given)

CATEGORY	Total Number of Fears	AGE OF FIRST APPEARANCE: % OF ALL FEARS OF EACH CLASS OCCURRING AT VARIOUS AGE RANGES			
		0-3 Yrs.	6-10 Yrs.	Over 10 Yrs.	No Information
I. Animals; including common, domestic as well as remote animals.	177	21.5	20.4	4.5	44.6
II. Specific objects and situations; cause unknown.	12	33.3	16.7	16.7	33.3
III-VII. Sudden, unexpected movements, rapidly approaching objects, lights, shadows, flashes, reflections, except lightning.	9	22.2	22.2	0	55.6
IVx. Lightning.	9	0	44.4	0	55.6
VIII. Noises and agents of noise; objects associated with noise (not including fear of sudden motion plus noise).	32	21.9	9.4	9.4	59.4
IX. Falling, loss of support, danger of falling, high places.	52	25	15.4	5.8	53.8
X. Pain, medical treatment.	59	17	25.4	6.8	50.8
XI. Strange objects and situations.	14	71.4	14.3	0	14.3
XII. Strange persons and unfamiliar variations connected with persons, also masks, etc.	33	33.3	12.1	0	54.5
XIIIa. Threat or danger of harm from persons, fighting, pursuit by persons	41	19.5	22	4.9	53.7
XIIIb. Fire.	19	42.1	21.1	0	36.8
XIIIc. Danger of accident or injury in situations (as distinct from fighting, threatening persons), drowning, diving, traffic, also witnessing accidents and injuries to others through accidents.	110	15.5	31.8	6.4	46.4
XIVa. Specific individuals described to child as harmful, events feared due to warnings.	3	33.3	0	0	66.7
XIVb. Apprehension for punishment over misconduct.	25	0	40	8	52
XIXa. Dying and ill-health in absence of malady or apart from fear of spe- cific accident or dangerous persons or situations.	31	12.9	12.9	16.1	58.1
XXIa. Loss or death of relatives, being abandoned by parents.	21	19.1	47.6	0	33.3
XVIII. Personal failure, inadequacy, fear of ridicule, of appearing or per- forming before others, lack of information concerning sex.	90	6.7	21.1	11.1	57.9
XVII. Dreams.	19	21.1	21.1	0	57.9
XIXc. Robbers, kidnappers and other criminal characters or their activities	40	20	37.5	0	42.5
XIXb. Death, corpses, superstitions, fears associated with death.	24	12.5	20.8	8.3	58.3
XXIb. Being alone and imaginary dangers when alone.	18	11.1	16.7	5.6	66.7
XX. The dark, alone in dark, imaginary creatures feared when in the dark.	125	31.2	24.8	1.6	42.4
XXIII. Supernatural or imaginary creatures (not including creatures men- tioned only in connection with being in the dark or being alone).	43	25.6	18.6	0	55.8
XXIV. Characters in stories and movies.	11	9.1	45.5	0	45.5
Number of fears reported.	1,017	20.7	25	5	49.3

and high places, strange objects and situations (71.4 per cent of these fears are described as arising during the first five years of life), and strange persons. All these events, it will be recalled, occurred frequently in the behavior of young children as observed and reported by others. Events with a larger representation in the age ranges beyond 5 years include dangers or threats of accidents and injuries; apprehension over punishment for misconduct, failure, and ridicule; embarrassment over appearing and performing in the presence of others; criminal characters; and death and corpses. These fears, as shown in earlier tables, tended to occur more frequently among the older than among the younger children whose behavior was reported by others. Although trends such as the foregoing may be noted, the fact still remains that the fears recalled from childhood, as described by adults, diverge in many respects from the fears exhibited by young children as observed and reported by others.

FEARS DESCRIBED AS "MOST INTENSE"

Fear of events associated with the dark is reported most frequently as the most intense fear of childhood, followed closely by fear of animals. Fears under the heading of "failure, personal inadequacy, ridicule, appearing or performing before others," constitute the third large group of most intense fears and represent ten per cent of all fears reported in response to this question: the proportion of fears under this heading reported as "most intense" is larger than the proportion reported as "earliest." Fear of danger of accident or injury comes next in order, with a frequency of 8.6 per cent. The remaining fears are widely scattered among remaining categories.

PERSISTING FEARS

Of the 1,017 childhood fears represented in Table I (not including repetitions of similar events), 349, or 34 per cent, were described as fears that still persisted at the time when the subjects wrote their reports. The proportion might be even a bit higher if all individuals had answered questions with regard to the history of their fears. In 213 instances, or 21 per cent, no in-

formation was given as to whether the fear had been overcome or was still a source of trouble at the time of writing.*

Separate panels in Table I show the relative frequency of various persisting fears, both in terms of the total number of events reported under this heading and in terms of the number of fears originally reported in each class. It will be noted that over 50 per cent of all recalled fears of animals, and of falling and high places, are reported as still persisting (last panel in Table I); between 40 and 50 per cent of all recalled fears of lightning, pain, and fears under the heading of failure, ridicule, and appearing or performing before other persons, and fears of death and corpses likewise are reported as still operative. On the same basis, fears in the remaining categories are represented by frequencies ranging from 37 to 8 per cent.

The next to the last panel in Table I shows the relative frequency of various classes of fear under the heading of "still persisting." Fear of animals, with a ratio of 25 per cent, outnumbered all other events. Fears in the respective categories of (a) harm or injury through accidents, fighting, etc., fear of (b) failure, inadequacy, and appearing or performing in public, and of (c) the dark and events associated with darkness each constitute about 10 per cent of the total. Fear of high places and of falling, with a ratio of 8 per cent, has a relatively large representation as compared with the frequency of fears of this class in the data as a whole and in the reports of earliest and most intense fears.

The figures given in Table I do not provide an indication of the exact overlapping between fears reported both as most intense and as still persisting, but this information could be obtained from the original data. When a tally was made it was found that of the fears described as "still persisting":

* The fact that so large a proportion of all fears reported are described as still persisting seems to throw some light on the discrepancies, noted above, between the present results and the results obtained when adults recorded fears exhibited by children whom they observed. It seems plausible that a fear that still persists would be more likely to be recalled than a fear that had been overcome in earlier years; inasmuch as this is true, fears characteristic of later childhood would have a better chance of being recalled than fears of earlier years.

27.4 per cent were also described as "most intense."

28.2 per cent were also described as "earliest recalled."

52.6 per cent were described neither as earliest nor as most intense.

(The percentages here do not give a sum of 100, due to the fact that some fears were described both as earliest and as most intense.)

COMPARISONS BETWEEN MEN AND WOMEN

When comparisons are made between men and women with respect to the relative frequency of various classes of fears, some differences appear, but none of them is striking. Men exceed women in the proportion of fears of pain, of harm and bodily injury, and of punishment for misconduct. Women exceed men to a small degree in fear of animals. Both sexes show approximately the same proportion of fear of events associated with darkness.

Under the heading of fears still persisting, men again exceed women in reports of fear of pain, threat or danger of harm, and punishment for misconduct. Men report a somewhat larger proportion of persisting fears of death and corpses, but women exceed men in proportion of persisting fears of darkness. Women also exceed men in fears of darkness under the heading of "earliest" and "most intense" fears. None of the differences can be regarded as outstanding.

CAUSES OF FEAR AS RECALLED BY ADULTS

The information regarding causes of fear recalled from childhood was unsatisfactory in many respects. In a large number of instances, the subject either reported that he could not recall the cause of a fear or failed to make any mention of the cause. Again, the statements with regard to causes appeared to reveal a tendency to interpret fears in terms of the concepts developed during the history of the fear rather than in terms of original specific events. The causes assigned often appeared to be end-products of previous conditioning. For example, a person who describes a persistent fear of snakes states that the fear was caused when once he actually met a snake. It is not clear from this account whether the shock of encountering the snake was solely responsible for his fear, whether he was startled by the

sudden unexpected movement of the object before he recognized it as a snake, or whether his fear was influenced by previous encounters with animals or by previous warnings that he had read or heard concerning snakes.*

An effort was made, in several tentative schemes for treating the data, to make a distinction between what might be regarded as primary and basic causal factors and what might be regarded as derived or vicarious causal influences in order to identify and distinguish, for example, such factors as noise, falling, pain, sudden and unexpected movement, on the one hand and such influences as warnings, threats, and stories on the other. It became apparent that this procedure could not be followed in a systematic or adequate manner.

The categories finally adopted for treatment of the reports of causes of fear are presented in the summary below. When two different factors, each of which would receive a separate tally if appearing alone, were named as the cause of a particular fear, each factor was given a separate tally.

An interesting feature in the summary below is the large number of fears attributed to threats, warnings and tales spoken by others in the child's presence. In many instances, the person who produced fear by such means apparently did so quite wittingly and with the intention of scaring the child. It was not possible to make an exact tally of apparently deliberate attempts to frighten, but a record was made of some of the more extreme instances in which others played upon the child's fears. Examples of behavior of this sort follow.

A child was locked into a dark cellar by his parents for "crying too loud and too long about nothing."

At the age of six, as a reprimand for striking his younger sister, a boy received the following warning from his mother (as quoted from memory by the subject himself): "Because of what you've done, the hand which struck your sister will not move in your

* A more systematic account of causes could no doubt have been obtained if the subjects had been asked to write their reports on a detailed form provided for that purpose. Even with this provision, an adult's retrospective report of the causes of his childhood fears would be acceptable only as an account of his concept of his fear rather than as a true statement of actual causes.

Categories Used in Tabulating Adults' Reports of the Causes of Their Childhood Fears
and the Number of Fears Belonging to Each Category *

Category	Number of Fears
No information as to cause	347
Fear is attributed to first-hand experience with a startling, harrowing, impressive, dangerous, threatening, harmful, or painful event; dog snapped and growled; mother became ill; child witnesses an accident; is thrown over by a wave; sees smoke from forest fire; hears and sees an explosion; child found house robbed when he returned home; undergoes an operation; older boys hit and pursue; is taken to roof of high building; suddenly becomes frightened while in a dark room; etc.	339
Fear is attributed to noise as such	30
Fear is attributed to warnings, threats, and frightening tales told by others (other than in stories read by child himself and events met through the radio or motion pictures): older brother tells vivid tales about prehistoric animals; child hears conversation about accidents, wars, shipwrecks, burglaries, kid- napping, etc.; child is threatened by playmates, strangers, and others	150
Events and characters met in motion pictures and in reading	46
Signs of fear in others	35
Ridicule: ridiculed by teacher and students for slowness in learning arithmetic; laughed at and ridiculed because of speech defect; ridiculed because of unusual height; teased because of affection for little boy	10
Nightmares (with no further explanation)	6
Imaginary events (no statement as to origin): "I imagined I heard a man climb- ing into my room," etc.	5
Pressure exerted by parents: parents complain and rebuke child if he earns low grades at school	2
Specific bodily weaknesses or shortcomings: sensitiveness to noise due to mas- toid operation; fear of roller skating due to weak ankles, etc.	15
Specific personal shortcomings or characteristics: constantly made low grades at school in spite of hard work; unable to equal others of his group in athletics; stammered when recited in class	15
Imagined or introspective shortcomings: child is convinced he lacks ability to learn; believes he lacks courage to fight other boys; considered self unable to compete with others in his class work; considered self to be an ugly person	39
Lack of sex knowledge	1

* These figures represent a gross summary of a more detailed table, showing the relative frequency of various causes as related to such factors as age of first appearance, "earliest," "most intense," and "persisting fears," and to sex. The table was not regarded as sufficiently significant to be reproduced in full.

later years. Let me tell you what happened to Mrs. —'s child. When the child died, his hand was left outside the coffin, and no one was able to put it inside, so the lid of the coffin could not be closed. Only when a priest had struck it did the hand slip into the coffin. Everybody talked about this child and laughed and laughed. This may also happen to you."

Instances are given also of parents producing fear by unusually severe corporal punishment.

A boy reports that his most intense fear, a fear of policemen, was encouraged by his mother who, knowing of his fear, would pretend to call a policeman.

Fear of the individual portrayed in a picture that hung on the wall was encouraged by a mother who threatened to call the person to come out of the picture and take the child away.

Fear of darkness, reported as the earliest fear of a boy, was promoted by older persons in the family who said that dark rooms contained monsters and threatened to lock the child into dark rooms.

A huge teddy-bear, that made the child "terribly afraid" when he first received it as a gift, was stored in a closet. His elders occasionally threatened to lock him into the closet with the toy; on one occasion he was punished in this manner.

Fear of the dark was encouraged in a boy at the age of 8 years by a teacher who threatened that she would put the children in a dark cellar filled with vicious rats, and keep them locked in overnight.

Threats concerning the dark and of dangerous characters in the dark are reported in several other records.

After having developed a fear of doctors, following an illness, a child reports that his mother's favorite method of compelling him to eat was to threaten to call the doctor.

One subject reports that his father used a fictitious "bogey-man" as a "club over my head when I wouldn't do as I was told," beginning at the age of 4 years. In another case, a child's parents invented a vicious creature by the name of "Mrs. Jones" (the child was already afraid of bogey- and sand-men) and threatened to telephone her when the child misbehaved.

Fear that his mother would die was reported as the most intense fear recalled by a man. His mother actually was in ill health much of the time, and the members of his family constantly told him that she was sick and would leave this earth because he was so mischievous.

A girl reports that her most prominent fear was that someone would look at the profile of her face; she explains that she had inherited a long nose from her father and that her mother

"harped on this feature to such an extent that to me it seemed very much larger than it really was. According to my mother, the cause of all my childhood quarrels, disappointments, etc., was because of my nose." (The girl overcame the fear when she grew older and noted that other people were surprised and protested when they learned that she considered her nose a handicap.)

A girl describes fear of a strange, bad man as her earliest fear; it was encouraged by her mother who threatened that the girl would be taken away by a bad man if she did not behave. (The report goes on to explain that the fear became so intense that it interfered with sleep, and the mother, noting this, changed to other forms of discipline.)

For several years a girl had an intense fear of going into the water after an episode on a liner, at the age of 5 years, when someone playfully grabbed her and threatened to throw her overboard.

The threat that she would be put into the "big, black hole" is described by a girl as producing her earliest recalled fear, at the age of five; she reports that the fear has never been entirely overcome.

The most intense fear described by a girl was fear of broken doll heads: the family maid kept a certain doll head in a closet, never entered by the child, and threatened the child with this head.

A girl reports a fear of having her tongue cut out. The fear first occurred in her first grade at school when the teacher threatened to cut out her tongue.

The prevailing note in the above accounts is the use of an appeal to fear as a means of intimidating or disciplining the child. As noted above, a large additional number of fears were described as due to lurid tales told by others. In many of these, perhaps, there was an element of cruelty and intimidation.

The records in all divisions of the present investigation bring out a fact that can often be observed in daily life, that adults as well as other children frequently play upon a child's fears,

sometimes inadvertently, sometimes as a form of amusement, and sometimes to serve an ulterior purpose.

From the point of view of the prevention of fear, such influences are difficult to control. To be sure, parents and other adults can resolve not to use fear as a means of discipline. Older siblings and playmates might also, perhaps, be warned against efforts to stimulate fear. But many of the influences that may stir the child's imagination and promote his fears are difficult to anticipate or to forestall. In the present study there are numerous accounts of children who have apparently been spared from fantastic fear stimulation at home but who develop fears of imaginary creatures none the less. An illustration of this is the case of a five-year-old girl. The child had always been very fearless until a certain evening when she refused to go to her room to sleep. She whimpered, cried, clung to her parents, and glanced apprehensively toward the bedroom. She could only say that she was afraid of lions. She was quieted and finally went to sleep when accompanied by her mother. The parents were at a loss to account for the fear until the following day, when the father chanced to extract a Sunday-school leaflet from the wastebasket. The leaflet gave a simple but vivid account of Daniel in the lions' den; it developed that this story had been presented orally at Sunday-school in the child's presence and that the fear apparently could be traced to this episode.

A similar illustration of the unpredictability of the appearance of fear is provided by another case of a five-year-old child. A relative was left in charge of the child one evening while the parents were away. With the best intentions, this relative told the child a bedtime story about angels. Kind angels, she said, would stand at the foot of the bed during the night and watch over the child and protect him from harm. The child, who until this time had apparently had no instruction about angels, and who had no notion that dangers might lurk in the bedroom, became much disturbed, and he protested against going to bed for several nights thereafter.

Many additional accounts of this character might be repeated from the present data, and no doubt the reader will be reminded

of similar instances from his own experience. One baffling feature of the development of fears of an imaginary character is the reaction of the child himself. Again and again the data in the present study suggest the need of a study that combines an investigation of fear with an investigation of the development of the imagination and growth of understanding. In interviews with parents the writer has frequently heard accounts of hallucinatory fears appearing between the ages of 2½ years and 5 years. The child wakes up at night, for example, crying and protesting that a "make-believe mail man is sitting over there by the door and is going to take me away." When the parents are told that the child's fantasy undoubtedly is based upon something that he has heard, they will frequently agree, with the reservation that this does not tell the whole story. The child may, it is true, have overheard something that later figures in his dreams or in his waking anxieties, but the pattern and characteristics of the child's fancy, the elements that seem to be drawn from a definite story that has been told to him and the elements that seem to come from unknown sources often are difficult to trace and to distinguish. Further, the impression that is made by a particular picture or story is often quite unpredictable. As is well known, a particular event may not represent itself to a child in the same manner as to an adult. An example of this is given in the case of a three-year-old girl. An older friend was telling her a story about a brave prince who rescued the pretty girl and carried her off with him to his castle. The child was a bright youngster, and the narrator felt that this happy ending should be quite pleasing to her. But not so. As soon as the above statement had been made, the child burst into tears. She did not know what a "castle" was (but apparently the word had an ominous sound) and she seemed also to have misgivings about princes. As though taking the rôle of the girl in the story, she protested that she did not want her to be taken away by the prince and brought into a castle.

CHAPTER II

EFFECTS OF FEAR AND METHODS OF OVERCOMING

THE manner in which the subjects were affected by their fears, as described by themselves, is summarized in Table III. The effects of fear, as described in varying terms in the reports, have been tallied under nine general headings, with a final heading to include items for which no information was given. The headings as shown in the table are largely self-explanatory. Under the title "apprehension, avoidance, uneasiness, nervousness, etc.," are included all fears that were described as having a somewhat disturbing effect without any specific mention of effects that could be classed under the remaining headings. Fears described as limited to a temporary episode, even though described as quite acute at the time, are classed under the heading of "temporary fright." Items specifically singled out and described as a source of unhappiness are given a separate tally. In most instances, the effects of a given fear were tallied under one heading only. A fear tallied under the heading of "temporary fright," or "major cause of unhappiness," or "acute anxiety," etc. was not, for example, also tallied under the heading of "apprehension, avoidance, etc." It will be noticed, however, that the sum of all tallies of the effects of fear is 1,206 as contrasted with a total of 1,112 fears. This means that in some instances the effects of a given fear were tallied under two headings. Such double tallies occurred in the case of fears that were described as having certain specific indirect effects such as compelling the child's parents to move to a new neighborhood, producing stammering and loss of sleep, specific effects on social behavior, definite efforts directed toward self-improvement—in addition to the more generalized effects of anxiety, apprehension, and unhappiness.

TABLE

Frequency of Various Reactions to Events Feared during Childhood and Effect of Fear Related to Various Classes of Fear. The Reactions Described by the Subjects Have 1,112 Fears, Including Distinct Items of the Same Class That Were Given a Tally of under More than

Category	A Tempo- rary Fright Only; Tempo- rary Shock	B Apprehen- sion, Avoidance, Uneasiness, Nervous- ness	C Improved Behavior; Stimu- lated Be- havior, Worked Harder, Made Efforts to Improve Self
I. Animals (including common domestic as well as re- mote animals)	2	158 ✓	0
II. Specific objects and events, cause unknown	2	8	0
III-VII. Sudden, rapid or unexpected motion, lights, shadows, flashes, etc. (except lightning)	1	6	0
IVx. Lightning	0	8	0
VIII. Noises and agents of noise	1	20	0
IX. Falling, high places, danger of falling	1	32	0
X. Pain, medical treatment, etc.	1	44	0
XI. Strange objects and situations	0	8	1
XII. Strange persons and unfamiliar variations con- nected with persons, also masks, etc.	0	0	0
XIIIa. Threat or danger of harm from persons, fighting, pursuit by persons	1	28	0
XIIIb. Fire	0	12	0
XIIIc. Danger of accident or injury in situations (as distinct from fighting, threatening persons), drown- ing, diving, traffic; also witnessing accidents and in- juries to others through accidents	3	90	1
XIVa. Specific individuals described to child as harm- ful, events feared because of warnings	0	2	0
XIVb. Apprehension over punishment for misconduct	3	11	1
XIXa. Dying and ill health (in absence of malady or apart from fear of specific accident or dangerous per- sons or situations)	2	16	1
XXIa. Loss or death of relatives, being abandoned by parents	2	20	0
XVIII. Personal failure, inadequacy, fear of ridicule, of appearing or performing before others, lack of infor- mation about sex	1	1	3
XVII. Dreams, nightmares	1	9	0
XIXc. Robbers, kidnappers and other criminal char- acters or their activities	0	28	0
XIXb. Death, corpses, superstitions, fears associated with death	0	13	0
XIXb. Being alone and imaginary dangers when alone	0	11	0
XX. The dark, alone in dark, imaginary creatures feared when in dark	0	99	1
XXIII. Supernatural or imaginary creatures (not in- cluding creatures mentioned only in connection with being in the dark or being alone)	2	32	0
XXIV. Characters in stories and movies	1	9	0
TOTAL (1,206)	24	665 ✓	8

III

on Behavior as Described by 303 Adults, Including 114 Men and 189 Women, as Been Talled under General Headings. The Frequencies Are Based upon a Tally of One Only in Earlier Tables. Certain Fears Presented Reactions That Were Talled One Heading.

D	E	F	G	H	I	J	No Information
Self-reproach, Felt Cowardly, Inferior, Developed Defense Mechanism	Effect on Social Behavior and Relationships, Timidity, Suspiciousness, Shyness	Physical Effects: Stammering, Paralysis, "Felt Weak and Sick," Trembling, Loss of Appetite	Disturbed Sleep, Caused Nightmares, Insomnia	Caused Parents to Change Residence	Acute Anxiety, Morbidness, Extreme Worry, Cramped Style, Acute Obsession, Phobia	Major Source of Unhappiness, Caused Unhappiness	No Information
0	1	6	7	0	11	3	41
0	0	1	0	0	0	0	1
0	1	1	0	1	1	0	1
0	0	0	1	0	0	0	1
1	0	0	0	0	1	1	7
0	1	6	2	0	3	0	9
2	5	1	1	0	2	2	7
0	1	0	1	0	4	1	2
0	36 ✓	0	0	0	1	0	0
0	3	1	2	0	2	1	11
0	0	2	1	0	1	0	3
3	2	3	0	0	8	1	23
0	0	0	0	0	1	0	1
0	3	0	1	0	1	1	6
0	0	1	2	0	3	1	6
0	0	1	0	0	0	1	2
4	93 ✓	2	1	0	12	16	1
0	0	0	7	0	0	0	3
0	2	1	8	0	2	1	6
0	0	1	2	0	3	1	6
1	0	0	0	0	0	2	5
2	1	2	9	0	3	3	13
0	4	0	4	0	0	1	12
0	0	0	2	0	0	0	0
13	153 ✓	29	51	1	59	36	167

It will be noted from Table III that no definite information regarding effects on behavior was given in the case of 167 fears. The largest number of fears fall under the heading of "apprehension, avoidance, uneasiness, nervousness." In only eight instances did the subject describe definite efforts to improve his information and skill as a means of coping with his fears (as will be noted below, a large number of individuals reported that they "outgrew" their fears or overcame them as they became older and wiser; however, unless efforts to cope with fears were specifically described, such reports were not tallied under the present heading). Effects on social behavior and social contacts were indicated in 153 cases; as one would expect, these effects occurred predominantly in connection with fears of strangers and fears under the heading of ridicule, meeting people, and performing in the presence of others. In the case of 59 fears, the effects were described as acute anxiety or morbidness, extreme worry, acute obsessions. Only 36 fears were specifically designated as being major sources of unhappiness; undoubtedly there were many additional fears that produced much distress, without being regarded as sufficiently acute or persistent to be described as falling in this category. It is interesting to note that a disproportionate number of fears described as being a major source of unhappiness represent fears under the heading of "ridicule, personal failure, inadequacy, fear of appearing or performing before other people."

OBSESSIVE FEARS

The reports submitted by adults included many fears that appeared to have characteristics in common with phenomena that are commonly labelled as phobias and obsessions. Just what distinguishes a phobia from an ordinary fear, or a recurrent fear from a psychasthenic anxiety, the authors do not propose to discuss. The aim in the present section is to present certain illustrations of chronic and persistent fears that appeared to have very specific effects on behavior. Each account that is presented is taken from a different record in the data submitted by adults; the main theme of the fear is identified and the characteristics of

the fear, as described by the adult's own report, are briefly summarized.

Gas Stoves. In "late childhood" the boy became "very suspicious" of gas ranges. The condition still persists (at the age of 19). "I make it a point to see that all the gas burners are closed every night before I go to bed. This I do regardless of what hour I may come home. Very often everyone may be asleep for quite some time, yet I must do this. It has become so much a habit that I do it without so much as thinking why." The "first fear" that this subject recalls is fear of being burned. He was not afraid of "street fires and others of that nature" but of being burned while asleep; he continually dreamed about fires; the fear was most intense from the age of 5 to 10 years (and then, apparently was replaced by the behavior described above). "It was so intense that it left room for no other fears."

Electrical Appliances and Matches. A history of fear similar in many respects to the above is reported by a girl. In early childhood (the exact age is not given) she acquired a strong fear of electric irons (persisting until the present time, at the age of 17 years). The fear first arose when a colored laundress dropped an iron on the child's right hand. For several years the girl feared all "electrical appliances," in addition to irons. Apparently as an outgrowth of this aversion, the child developed an intense fear of lighting matches, beginning at the age of 12 years. It was not the flame, but the act of striking a match, that she fears, according to her account. She would use cigarette lighters or other means when she had to light the oven. In the chemistry laboratory she trembled and seemed so much disturbed about lighting Bunsen burners that her instructors did it for her. The fear began to wane when she developed the habit of smoking cigarettes and had to depend upon matches, at times, in order to enjoy a smoke.

Gas. Fear of escaping gas occurs again in the record of a twenty-year-old girl, who describes as her earliest, most intense, and most persistent fear the fear of death by gas. She reports that she would "always" get out of bed (sometimes as many as twenty or thirty times during the night) to see that the gas jets

were turned off. The fear has never been overcome. It first arose after the child had been told about the death by gas of two of her mother's friends.

Cooked Onions. This is described as the "earliest and most persisting fear," arising sometime between the age of 3 and 5 years, and dating from a time when the child's father forced a cooked onion into the child's mouth, compelled him to chew and swallow it. The fear of having to see, smell, or taste cooked onions still persists (at the age of 27 years).

People. The fear of meeting and being with people began at the age of 6 years, "because I never had played much with other boys and therefore couldn't play their games very well." When compelled to go to school and to meet others, the subject kept "very quiet" and kept his "mouth shut." In grammar school (the child completed the eighth grade at the age of 12), a teacher "continually called my backwardness (social) to the attention of the class. After a half year of this torture I changed altogether. My fear had been pushed into my subconscious mind (sic) and to all outward appearances I became a boisterous, talkative, and bold fellow." In high school the boy took part in debating, public speaking, and dramatics. "I was known as the class orator, yet that subconscious fear of people bothered me more than ever. At the present time (in college, age 17) I still have a reputation for being a 'glutton' for the center of the stage—yet there is nothing that makes me feel more uncomfortable and yet sometimes happy . . . I usually am afraid to talk even in a discussion between a group of friends if I know there is someone present whom I do not know very well."

Churches. From the age of 5 years, throughout childhood, and until the present time, following an experience of being acutely startled by the sudden ringing of a church bell, the boy has made every effort to avoid going into or passing churches.

Fear of Death. "This fear has always been with me . . . It makes me morbid and melancholy" and has led the boy to adopt a careful routine, to sleep eight to eleven hours a day to protect his health, to avoid coffee, smoking, drinking, and "other forms of dissipation."

Chickens. A girl reports that she was attacked by a hen at the age of six. Since that time she has been afraid of chickens and has never been able to gather enough courage to enter a chicken coop. Associated with the fear is a dislike for eating chicken.

Magnified Reflections. At the age of 19 years, a girl reports that she still is afraid of looking at the reflection of her own or another's face in a magnifying mirror. This fear is described as "one of the most intense" fears of the girl's childhood. "I can in no way explain it." (It is possible that this fear is associated with another, the fear of strange persons, which arose at the age of five years after she had heard accounts of "ghastly murders." This fear also still persists, along with the fear of magnified reflections according to the report.)

Being Shut In. (Described by a girl, over 20 years old, as a "claustrophobia"): "Probably occurred first at 3 years or thereabouts. My sisters say that a girl in the neighborhood playfully locked me into the closet of her house and left me there some time. I can't remember the incident. The first time I remember being afraid of a small space, covered over, was at the age of 4½ when my family was making a day's journey by wagon to the farm. All of the children were in a covered part of the wagon, at the back. I was so upset by being covered in that I cried until at last my mother let me ride in front with her. The next time I remember being terrified by being closed in was at the age of 9 when I was accidentally locked in a broom closet at school during a game while the teacher was out of the room. . . . The fear never has been wholly overcome. It is most apparent now in a pullman berth, in a crowded subway, or in a mine."

METHODS OF COPING WITH AND OVERCOMING FEAR

The replies given by adults in response to the request that they describe the manner in which fears recalled from their childhood were overcome (if they did not still persist) were tabulated in terms of the general categories described below. As will be noted in this summary, an effort was made to distinguish between

factors attributed by the subject to changes within himself—as a result of his own efforts or as the result of added growth and experience—from other factors, such as the influences of parents, associates, and non-personal forces in the environment. It is quite likely in some instances that a subject may have been aided by others or by impersonal events when he reports that the fear was overcome as the result of changes within himself, but unless specific mention was made of such external aids, it was necessary, of course, to take the subject's report on its face value and to classify it accordingly.

Categories used in tabulating and tallying reports of methods by means of which subjects overcame or coped with their childhood fears:

- A. Overcome by factors attributed by the subject to changes within himself as the result of added growth, experience, and information or as the result of specific improvements in his behavior, his physical condition, his ability and skill.
 1. Improved physical condition; acquired new teeth, grew physically stronger and larger, health improved.
 2. Elimination or overcoming of specific disabilities: overcame speech defects, stuttering.
 3. "Self discipline," acquired specific skills or improved ability, or counteracting interests and activities: "I made myself dive into the water; I deliberately went into dark places"; improved work in school; learned to swim, acquired an interest in electricity, acquired habit of daydreaming before going to sleep.
 4. Improved personal conduct: became more industrious, confessed guilt, took more pains with personal appearance (to avoid fear of punishment).
 5. Successful encounter with feared event: won fight with playmate, made good showing at school.
 6. Information acquired through specific study, laboratory work, improved knowledge through definite channels.
 7. Habituation, fear waned through repeated contact, fear "outgrown," overcome through added experience and information, "increased self-confidence," "timidity waned as I grew older," etc. (all described by the subject in general terms such as the foregoing).
 8. "Rationalization," "reasoning with self": "lost fear of kidnappers when I decided I was too ugly to be kidnapped," "overcame fear of dying by rationalizing life wasn't worth living anyhow," etc.

- B. Overcome by non-personal counteracting forces.
 - 9. Fear of sleeping during storms overcome when subject was given work so hard and became so tired he could sleep through anything.
 - 10. Feared situation became associated with pleasant events.
- C. Overcome through specifically mentioned aids or influences exerted by others.
 - 11. Reassurance, help, instruction or rewards from parents and other adults.*
 - 12. Pressure and discipline exercised by parents and other adults: parental insistence that he meet the feared event, corporal punishment administered to counteract fear, enforced habituation.
 - 13. Influence of example of others.
 - 14. Ridicule, social pressure, shame due to taunts or suggestions by playmates and others.
 - 15. Reassurance, explanations, information acquired from playmates, discussions with playmates.
- D. Avoidance or removal of fear stimulus.
 - 16. Moved to new environment.
 - 17. Fear stimulus was removed: feared burglar was captured, feared children migrated to another neighborhood.
- E. Fear temporary only, shown only in response to temporary episode with no apparent after-effects.
- F. Fear not overcome.
- G. No information given.

The results obtained when the reports were tallied in terms of the above categories are shown in Table IV. In making this tally, all fears, including repeated items belonging to the same class (such as mention of spiders, wolves, and snakes, all of which belong to the category of fears of animals) were taken into account.

In some instances it appeared to be necessary to tally the methods used in coping with a particular fear under two headings. For example, when a subject reported that his fear was overcome both as the result of increased physical strength and as the result

* In some instances the subjects reported that they were aided by the reassurance, help, and instruction of others without specifying whether such aid came from their elders or their peers. The arbitrary rule, adopted in tabulating the reports, was to attribute such help to adults unless the subject specifically indicated that the help had been extended by other children.

TABLE

Frequency of Various Methods of Coping with or Overcoming Fears as Described
Shown under Certain General, Inclusive Headings

Category	A							
	Overcome by Factors Attributed by the Subject to Change and Improvements within Himself through Growth, Experience, and Self-Discipline							
	1. Improved Physical Condition	2. Elimination or Overcoming of Specific Disabilities	3. Self-Discipline and Acquisition of Skills, Improved Ability, Interests and Activities	4. Improved Personal Conduct	5. Successful Encounter with Feared Event	6. Information Acquired through Study	7. "Habituation," "Fear Outgrown," "Added Experience," "Increased Confidence as I Grew Older," "Repeated Contacts," etc.	8. "Rationalization," "Reasoning with Myself"
								Total
I. Animals (including common domestic as well as remote animals)			2		1	3	31	37
II. Specific objects and events, cause unknown							3	3
III-VII. Sudden, rapid, or unexpected motions, lights, shadows, flashes, etc. (except lightning)							3	3
IVa. Lightning			2					2
VIII. Noises and agents of noise	1		1				6	9
IX. Falling, high places, danger of falling.	1		4				4	9
X. Pain, medical treatment, etc.	2		1	1			9	15
XI. Strange objects and situations			1				5	6
XII. Strange persons and unfamiliar variations connected with persons, also masks, etc.							5	5
XIIIa. Threat or danger of harm from persons, fighting, pursuit by persons ...	3		1		3		6	13
XIIIb. Fire							4	4
XIIIc. Danger of accident or injury in situations (as distinct from fighting, threatening persons), drowning, diving, traffic, also witnessing accidents and injuries to others through accidents			12			1	18	31
XIVa. Specific individuals described to a child as harmful, events feared due to warnings								0
XIVb. Apprehension over punishment for misconduct	1			1			3	6
XIXa. Dying and ill health (in absence of malady or apart from fear of specific accident or dangerous persons or situations)	1		2				5	8
XXIa. Loss or death of relatives, being abandoned by parents			1				4	5
XVIII. Personal failure, inadequacy, fear of ridicule, of appearing or performing before others, lack of information about sex	3		7		1	1	9	21

FEARS REPORTED AND RECALLED

143

IV

by 303 Adults Who Reported Fears Recalled from Childhood. Frequencies Are
dings, as Well as Under Specific Categories.

B		C				D			E	F	G	
Overcome by Non-Personal Counter-acting Forces		Overcome through Specifically Mentioned Aids or Influences Exercised by Other Persons				Avoidance or Removal of Feared Stimulus						
9. Sleepiness due to Hard Work Overcame Fear of Sleeping in Dark		11. Reassurance, Rewards, Explanation, Help, Instruction from Parents and Other Adults	12. Discipline, Punishment and Demands Exerted by Adults to Compel Child to Face Feared Event	13. Example of Others	14. Ridicule, Shame, Taunts, and Suggestions by Playmates and Others	15. Reassurance, Explanation, Instruction from Playmates	16. Family Moved to New Neighborhood	17. Feared Event Removed	Fear Temporary Only, No Recurrence, No After-Effects	Fear Not Overcome	No Information Given	
10. Feared Event Associated with Pleasant Event	Total					Total						
	0	4	1		2	7	1	1	2	2	III	53
2	2	1			1	2			0		2	5
1	0					0			0	1	2	4
	1					0			0		4	4
	0	1		1	1	3			0		10	11
	0		2			2			0		29	16
	2	2	3		1	4			0		27	17
	0					0	1		1		2	6
	0				1	1	2	1	3		9	18
	0					0	1	1	2	1	9	21
	0	1				1	1		1		5	10
2	2	8	1		10		1	1	3	52	37	
	0					0			0		2	1
	0	3				3			0		3	17
	0					1	1	1	1	2	8	13
	0	3				3			0	3	3	9
	0				1	1	2	3	1	43	32	

TABLE IV

Category	A							
	Overcome by Factors Attributed by the Subject to Change and Improvements within Himself through Growth, Experience, and Self-Discipline							
	1. Improved Physical Condition	2. Elimination or Overcoming of Specific Disabilities	3. Self-Discipline and Acquisition of Skills, Improved Ability, Interests and Activities	4. Improved Personal Conduct	5. Successful Encounter with Feared Event	6. Information Acquired through Study	7. "Habituation," "Fear Outgrown," "Added Experience," "Increased Confidence as I Grew Older," "Repeated Contacts," etc.	8. "Rationalization," "Reasoning with Myself"
								Total
XVII. Dreams, nightmares							5	5
XIXc. Robbers, kidnappers and other criminal characters or their activities ..	1		1				14	17
XIXb. Death, corpses, superstitions, fears associated with death			3		1		2	7
XXIb. Being alone and imaginary dangers when alone			1				4	5
XX. The dark, alone in dark, imaginary creatures feared when in dark			11				36	48
XXIII. Supernatural or imaginary creatures (not including creatures mentioned only in connection with being in the dark or being alone)			2		1		16	20
XXIV. Characters in stories and movies ..							3	3
TOTALS 1,162	10	3	52	2	5	7	195	282

of efforts that would fall under the heading of "self-discipline," a tally was entered under each of these headings. Approximately 5 per cent of the fears received tallies under two headings.

It will be noted from Table IV that the subjects neglected to give information as to methods of overcoming in the case of 372 fears; in addition, 394 fears were reported as not overcome and as still persisting at the time when the report was made. In the great majority of the remaining instances (282) the subjects attributed the disposal of their fears primarily to changes within themselves. The largest single factor in coping with fear, according to the subjects' accounts, was the change that came with added growth, repeated contacts with the feared event, and information and experience acquired in the course of daily life; 195 fears were described as being overcome through this process. In 52 instances specific acts of self-discipline, acquisition of

(Concluded)

B		C				D		E	F	G
Overcome by Non-Personal Counter-acting Forces		Overcome through Specifically Mentioned Aids or Influences Exercised by Other Persons				Avoidance or Removal of Feared Stimulus				
9. Sleepiness due to Hard Work Overcame Fear of Sleeping in Dark		11. Reassurance, Rewards, Explanation, Help, Instruction from Parents and Other Adults	12. Discipline, Punishment and Demands Exerted by Adults to Compel Child to Face Feared Event	13. Example of Others	14. Ridicule, Shame, Taunts, and Suggestions by Playmates and Others	15. Reassurance, Explanation, Instruction from Playmates	16. Family Moved to New Neighborhood	17. Feared Event Removed	Fear Temporary Only, No Recurrence, No After-Effects	No Information Given
10. Feared Event Associated with Pleasant Event	Total									
	0					0			2	15
	0	2		1		3	2	2	4	10
	0					0			11	7
	0	1				1			0	9
1	1	5	2	2	5	14	4	1	5	2
	0									
	0	5			2	1	8	1	1	5
	0					0			1	3
1	7	8	37	6	4	15	3	65	17	7
									24	17
									394	372

counteracting skills, interests, and activities were described as being effective.

The fears overcome through specifically mentioned helps, encouragements, instructions, rewards, and punishments administered by others were relatively few in number. Only 65 fears were reported that could be classed under this heading; this number includes many instances of somewhat unsympathetic aid from others, such as taunts and ridicule.

To offer an adequate discussion of means by which the growing child copes with his fears would require more intensive and systematic data than are provided here. Two observations stand out, however, in the present results, and both are in keeping with observations that were made in the earlier discussion of the fears of children as observed and reported by adults. First, the child's fears as portrayed by the methods used in this study, seem

to be largely a private affair and his effort to cope with them appears to be primarily a private battle. This observation, which is perhaps more in the nature of a truism than a scientific finding, is emphasized not only in the data presented in Table IV but also stands out as a prevailing note in the phraseology employed by the adults in describing their childhood fears. The second observation is that the chief factor in overcoming fear is the increase in ability and experience that comes with growth and the increase in information and skill that comes in the course of normal daily life, as distinct from especially planned ways and means adopted by the child or his elders in an effort to combat fear. The same fact appeared in the records of the children whose overtly expressed fears were observed and recorded by adults. As children grew older, many fears waned or appeared in another disguise. The trend of the change with age in fear behavior appeared to take its course as a matter distinct from the zeal or indifference shown by parents in dealing with specific manifestations of fear.

A third observation should, however, be added at this point. Granted that fears wane or change in the natural process of growth, the fact still remains that a large number of fears that are acquired sometime during childhood still persist into adult years. Although it is true that many such fears seem to sit rather lightly, as indicated by the small number of fears described by the present subjects as being a "major source of unhappiness," it no doubt also is true that fears often are a source of unnecessary distress. On the question as to the value of fear in promoting caution and prudence and in restraining individuals from being an irritation to others, the present study offers no systematic data. The problem of the prevention and overcoming of fear is, of course, bound up with the problem of the utility of fear. This fundamental problem should not be overlooked.

Frequently when fears are discussed, orally or in writing, it is implied that all fears are a nuisance and things to prevent and remove. This assumption is no doubt more right than wrong. Certainly it is difficult to argue that such unreasoning fears as fear of going to a dark room when common sense tells that there

is no danger, or fear of imaginary or supernatural creatures, serve a useful purpose. But the assumption that all fears should be regarded as vermin certainly should not be accepted on a *priori* grounds. There may be benefits, both direct as well as less obvious and indirect, that are derived even from fears that seem to be patently groundless or flavored with superstition, or that linger as cadavers of experiences with past dangers which never again are likely to recur. The fear may serve as an irritant that promotes constructive achievements, designed to provide compensation or escape. The benefits so won may, in the end, outweigh the distress that prompted them. Again, no one can tell just where lies the line between difficulties—fears among them—that are permanently hurtful and difficulties that seem valueless but in the end have a seasoning effect on personality, that produce greater eventual hardihood in the face of adversity, and render the individual a more agreeable and sympathetic human being.

Whatever may be the solution to this general question, the present data offer a number of suggestive findings. From the subjects' own report it appears, as we have noted, that children are usually put upon their own mettle in coping with their fears. To be sure, the adults who offered this information may have placed too high an estimate on their own rôle, and too low an estimate on the rôle played by their elders in helping to alleviate fear. Again, as we have noted, the data indicate that some fears wane and others emerge as the child grows older, and this again suggests that the child's own growth and experience, apart from the intervention of elders, are primary factors in the development and the overcoming of fear. But there are further data that are rather challenging from the point of view of guidance. First, as has been set forth in an earlier section, a substantial proportion of children's fears are prompted, at least in part, by adults who deliberately or unthinkingly play upon the child's fears. In connection with these the moral from the point of view of the prevention of fear is, of course, quite obvious.

Second, the proportion of fears recalled from childhood that persist into adult years, as shown in Table IV, is rather striking.

In the case of fears concerning which the appropriate information is supplied, fewer than 50 per cent are described as having been overcome. Here the reservation must be noted, as mentioned before, that the data are weighted by fears that still persist. In reporting his childhood fears, the adult no doubt is likely to be reminded of fears that still trouble him and to fail to recall many fears that had their day and disappeared. If one could obtain a complete record of all events and occasions that provoked fear during the span of childhood, the ratio between total fears and fears still persisting, as indicated in Table XV, would no doubt be reduced decidedly. Be that as it may, the data still show that many fears originating in childhood are carried into adult years. By the same token, the data show that such methods as the subject himself had employed to overcome his fears, and such methods as had been used by others to help him, often failed. It is likely that many such failures might have been avoided if proper methods had been used.

CHAPTER III

CHILDREN'S FEARS AS REPORTED BY THEMSELVES

IN AN earlier study,* each of 398 children, aged 5 to 12 years, was asked in a private interview to tell about his fears. The replies made by the children were classified and presented in tabular form, along with other data, in a previous publication. A large proportion of the fears described by the children, it appeared, dealt with dangers somewhat remote from the hazards of normal daily life.

The categories used in classifying these fears in an early publication differed in some respects from the classification used in the foregoing sections of the present study. For this reason, it was thought advisable to go to the original data and to reclassify the children's reports in terms of the categories hitherto used in this study. As it happened, the trend of the results when the present categories were applied remained substantially the same as the results already published, but a better basis for comparison with other findings in this study is provided by the new classification.

The questions concerning fear were introduced in the interview after many previous questions had been asked, including questions concerning the child's wishes, his ambitions for the future, his likes and dislikes, his dreams and daydreams. As described in a previous paper, the children were much interested in the questions; from their demeanor it appeared that their coöperation was good. The questions concerning fear were put as follows: "Tell me about things that scare you, things that frighten you. Tell me what makes you afraid. . . . Tell me more about

* Jersild, A. T., Markey, F. V., and Jersild, C. L., *Children's Fears, Dreams, Wishes, Daydreams, Likes, Dislikes, Pleasant and Unpleasant Memories*. Child Development Monographs, No. 12, 1933.

that. . . . What else makes you afraid? . . . What else? (With each report, inquire as far as possible into details of the fear.)”

The children in the interview study included 25 boys and 25 girls* at each age level from five to twelve years inclusive. One group of 240 children, including 15 boys and 15 girls at each age, belonged to a New York City public school, located in a relatively poor district and representing, predominantly, homes that were relatively low in the socio-economic scale. The average I.Q. of these children was 105.† The remaining children, including 10 boys and 10 girls at each age level, attended New York City private schools; these children came predominantly from homes that were relatively high in the socio-economic scale. The average I.Q. of this group was 124. In view of the large proportion of public school children of near average intelligence, the subjects in this study represent a lower (although still above average) level of intelligence than do the adults who were asked to recall their childhood fears.

Table V shows the relative frequency of various classes of fears as reported by the children. The table is based upon a tabulation of the data in terms of the specific categories described on pages 21 to 32 and 114 to 116, and the tallies so obtained were summarized under more inclusive headings. In tallying the fears, a separate notation was made of recurrent fears of the same character. For example, if a child reported he was afraid of ghosts (“imaginary creatures”) and then proceeded to name also witches, bogeys, spooks, and giants (all of which would similarly be classed as “imaginary creatures”), a distinction was made between the first tally of a fear of this class and repetitions of the same class. The results shown in Table V represent only one tally for one or several items classifiable under one of the specific headings described on pages 21 to 32 and 114 to 116. (The additional items, it should be said, were also counted in a separate tabulation of the data. As it happened, the relative frequency of various fears was substantially the same whether a

* Because of an oversight, two of the 400 children who participated in the interviews were not asked questions concerning fear.

† Children with I.Q.'s below 80 were not interviewed.

tally was made of each repetition of a given class or whether a tally of one only was allowed.)

The figures in Table V represent percentages obtained by dividing the number of fears of a particular class by the total number of fears reported by the particular group of children in question.

In tabulating the fears, an attempt was made to provide a separate tally of fears under two categories that have not been treated separately in earlier tables. In the case of fears of animals, a distinction was made between animals that are more or less common, such as dogs, cats, cows, etc., and animals that the child is not likely to meet, such as lions, wolves, and the like. The second group of fears that was distinguished from the rest included fears arising as the result of apparently deliberate attempts on the part of others to frighten the child (by jumping at him from behind a door, by making guttural noises, clawing gestures, and facial contortions while advancing toward him, etc.).

Certain general trends, already anticipated in the foregoing paragraphs, are outstanding in the results shown in Table V. The children's fears, as reported by themselves, include a very large proportion of fears of imaginary creatures, events associated with the dark, criminal characters, characters associated with stories read or heard and with radio programs and motion pictures.

The categories in Table V may roughly be grouped under three general headings. The first of these, including fears of concrete events occasionally met in the daily environment, such as domestic animals (but not remote or imaginary animals), noises, danger of falling, danger of accidents, fighting, strange objects and persons, sudden, unexpected movements and painful situations, operations, punishment for misconduct, and signs of fear in others, constitute 36 per cent of the fears of all children. The second group, including apprehension over possible failure, loss of property, ill health, and loss of relatives, represents 4.5 per cent of the fears. Even though the distinction is not as clear-cut as might be desired, the foregoing fears might be contrasted with a third large grouping. In the third group are fears that have a more definitely imaginative character, many of them dealing with

TABLE

Relative Frequency of Various Fears Reported by 398 Children, Aged 5
Them in Pri

The figures shown are percentages, obtained by dividing the actual number of reported by each respective group. General categories only are given, based upon 32, and pages 114 to 116.

FEARED SITUATION	ALL CHIL- DREN	AGE GROUPS (IN YEARS)			
		5-6	7-8	9-10	11-12
Number of children	398	90	100	100	99
Number of fears	772	161	236	182	193
Ia. Animals (not including imaginary animals or remote creatures such as lions, tigers, wolves, etc.)	8.2	12.4	8.5	3.8	8.3
Ib. Remote or imaginary animals (lions, wolves, etc.)	9.2	14.9	9.7	7.7	5.2
II. Specific objects or events, not described as strange, reason for fear unknown .....	.51	1.2	.42	.54	0
III. Sudden, unexpected movements (not including sudden movements plus noise deliberately made to frighten) .....	.9	0	.84	1.6	1.0
IV and V. Lights, flashes, shadows, reflections, sudden disappearance of persons, lightning .	1.0	.62	1.3	1.1	1.0
VI and VII. Sudden movement plus noise (other than apparently deliberately made to frighten) .....	.25	0	0	.53	.51
VIII. Mechanical or vocal, proximate or distant noise; agents of noise, thunder	3.9	1.2	3.4	7.7	3.1
IX. Falling and loss of support, danger of falling, high places	1.4	0	1.7	1.1	2.6
X. Pain, painful situations, persons specifically inflicting pain, medical situation, operations, events associated with pain	3.4	2.5	1.7	4.9	4.7
XI. Strange objects and situations .....	.25	.62	0	0	.51
XII. Strange persons (actually met as distinct from robbers, burglars, kidnappers, etc., with whom child has had no direct contact); also, masked figures, deformed persons	2.5	3.7	3.4	1.1	1.6
XIII. Danger or threat of bodily injury, harm, confinement, fights and attacks by others, fire, sight of fighting, dangers of traffic, diving, etc.	11.9	7.5	10.6	15.9	13.5
XIV. Apprehension over possible punishment for misconduct, fears due to warnings	1.6	0	1.7	2.2	2.1
XV. Fear in response to signs of fear in others.	.25	0	.84	0	0
XVI. Loss of personal property .....	.12	0	0	0	.51
XIXA. Dying, foreboding over future ill-health (in absence of specific danger or maladies) .....	.64	0	.42	1.1	1.0

V

to 12, Who Named Their Fears in Response to Questions Presented to
vate Interviews

fears reported in each category for each group of children by the total number of fears
previous tabulation of the data in terms of the classification described on pages 21 to

SEX GROUPS		SCHOOL GROUPS		I.Q. GROUPS			SCHOOL GROUPS MATCHED IN AGE, SEX, I.Q.			
Boys	Girls	Pri- vate	Pub- lic	120 and above	100- 119	80-99	I.Q. 100-119		120 AND ABOVE	
							Pri- vate	Pub- lic	Pri- vate	Pub- lic
199 357	199 415	159 312	239 400	127 252	175 334	96 186	53 94	53 105	26 54	26 41
9.0	7.5	6.4	9.3	6.0	9.0	9.7	8.5	4.8	1.9	7.3
11.2	7.5	8.7	9.6	8.3	11.1	7.0	8.5	9.5	7.4	9.8
.84	.24	.96	.21	.79	.29	.53	1.1	0	1.9	0
1.1	.72	1.6	.43	1.6	.59	.53	1.1	.95	3.7	0
1.1	.96	.96	1.1	.79	.89	1.6	2.1	0	1.9	2.4
0	.48	.32	.23	.39	0	.53	0	0	0	0
4.2	3.6	7.4	1.5	7.1	2.1	2.7	4.3	1.9	14.8	2.4
2.0	.96	2.2	.86	1.6	2.1	0	3.2	1.9	0	0
2.5 0	4.1 .48	3.2 .64	3.5 0	3.6 .79	3.3 0	3.2 0	1.1 0	2.9 0	5.6 0	2.4 0
.56	4.1	1.9	2.8	2.8	2.4	2.2	0	3.8	1.9	2.4
15.1	9.2	12.5	11.5	11.1	12.6	11.8	12.8	9.5	14.8	4.9
1.4 0	1.7 .48	2.2 0	1.1 .43	2.4 0	1.5 0	.53 1.1	1.1 0	2.9 0	1.9 0	0 0
.28	0	.32	0	.39	0	0	0	0	0	0
.56	.72	1.3	.21	1.6	.29	0	0	0	3.7	0

TABLE V

FEARED SITUATION	ALL CHILD- REN	AGE GROUPS (IN YEARS)			
		5-6	7-8	9-10	11-12
Number of children	398	99	100	100	99
Number of fears	772	161	236	182	193
XXIA. Being abandoned by parents, illness or death of relative	2.1	1.9	.84	2.7	3.1
XVIII. Failure, apprehension over personal inadequacies, personal appearance, ridicule; also fear of meeting and appearing or performing before people	1.6	.62	.84	2.2	2.6
XVII. Fears arising during dreams and fear of dreaming	5.6	4.3	5.9	6.6	5.2
XIXC. Robbers, burglars, murderers, kidnappers, etc. (in absence of actual contact with such characters)	9.5	14.9	10.2	7.7	5.7
XIXB. Death, funerals, corpses, matters connected with dead people	2.5	3.1	2.5	2.7	1.6
XXIB. Being alone, imaginary animals or characters feared when alone	1.9	1.9	.84	2.2	3.1
XX. The dark, being alone in dark, imaginary animals and characters feared in connection with darkness	6.9	2.5	8.1	5.5	10.4
XXIIIA. Imaginary creatures, ghosts, bogeys, witches, etc.	10.0	19.3	11.4	4.4	5.7
XXIV. Characters met in or remembered from stories, radio programs, moving pictures ...	8.4	3.1	8.5	9.9	11.4
XXV. Gestures, activities, noises, tales, apparently deliberately designed to frighten ..	5.7	3.7	6.4	6.6	5.7

* Twenty-three children reported no fears.

dangers that are fantastic or unreal or with improbable dangers that are quite remote from the child's actual, daily experience. In this group are combined fears arising during dreams, fears of criminal characters, of supernatural creatures, of dangers imagined in connection with darkness and being alone, of characters in stories, movies, and radio programs, and of uncanny matters connected with corpses and death. Within this general grouping occur 44 per cent of the fears reported by all children.* If fears under the heading of "remote" animals are added, the figure becomes 53 per cent.

Certain differences in the relative frequency of various fears appear in comparisons between children of different ages. Some

* These three general groups do not include, it will be noticed, fears due to apparently deliberate attempts to frighten the child.

(Concluded)

SEX GROUPS		SCHOOL GROUPS		I.Q. GROUPS			SCHOOL GROUPS MATCHED IN AGE, SEX, I.Q. I.Q. 100-119 120 AND ABOVE			
Boys	Girls	Private	Public	120 and above	100-119	80-99	Private	Public	Private	Public
199 357	199 415	159 312	239 460	127 252	175 334	96 186	53 94	53 105	26 54	26 41
2.8	1.4	1.6	2.4	2.0	1.8	2.7	2.1	.95	3.7	4.9
.28	2.7	1.3	1.7	2.4	.59	2.2	0	.95	1.9	4.9
5.6	5.5	5.8	5.4	7.9	4.8	3.8	2.1	7.6	7.4	9.8
8.7	10.1	8	10.4	7.1	9.6	12.4	9.6	7.6	1.9	7.3
2.2	2.7	1.6	3.0	2.0	3.0	2.2	2.1	5.7	1.9	4.9
.56	3.1	1.6	2.2	1.6	1.5	3.2	2.1	0	1.9	2.4
6.2	7.5	8.0	6.1	7.5	6.3	7.0	10.6	6.7	1.9	7.3
10.1	9.9	5.8	12.8	5.6	12.0	12.4	10.6	14.3	3.7	9.8
8.7	8.2	8.7	8.3	8.3	9.3	7.0	8.5	13.3	7.4	9.8
5.0	6.3	7.1	4.8	6.3	5.1	5.9	8.5	4.8	9.3	7.3

of these differences occur in connection with categories that include only a few fears at each age level. There is a consistent rise with age in fears under the heading of fear of failure, ridicule, inadequacy, apprehension over meeting people, and performing in the presence of others. This category, it will be noted, represents only a small tally at each age, in contrast with the large number of fears of this character reported by adults. This discrepancy will be discussed below.

Reports of fear of the dark and of imaginary creatures associated with the dark show an increase with age. There is a consistent and relatively substantial increase with age in reports of fear of characters met in stories, motion pictures, and radio programs. To offset this, there is a decline with age in reports of

fear of specifically named imaginary creatures. The difference here may be due more to the manner in which the child identified his fear than to an actual change in the nature of his fears, although the difference no doubt also reflects the fact that older children are better able to read and perhaps receive more opportunities to go to the movies and to stay up later at night while listening to the radio.

There is a consistent decline with age in fears of remote animals, and an irregular decline in fears of criminal characters. When all fears that are distinctly imaginative in character, or that deal with remote or fantastic dangers are grouped together, the percentages show some decline with age, although fears of this class have a high frequency at all ages. The most notable increase occurs in the case of fears under the heading of possible accidents or injuries in traffic, fire, drowning, etc.

On the whole, the similarities between the fears of boys and girls, as shown in Table V, are more outstanding than the differences. Boys slightly exceed girls in proportion in fears of animals, of bodily injury, falling, accidents, fighting, and confinement; girls show a slightly higher proportion than boys of fears of strange persons, being alone, and of darkness.

The differences between public and private school children are somewhat more pronounced than differences between boys and girls. The former group, representing homes that were, on the whole, relatively low in socio-economic status, exceeded the private school children in fears of animals, strange persons, being abandoned by parents, criminal characters, matters connected with death and corpses, and supernatural and other imaginary creatures. The difference is most pronounced in the last-named category; 12.8 per cent of the fears of public school children as compared with 5.8 per cent of the fears of private school children fall in the category of fear of supernatural and other imaginary creatures. The private school children exceed the public school children in fear of noises, falling, dying, and ill health. On the whole it may be noted that children of lower socio-economic status exhibit a somewhat larger number of fears of a superstitious character than do children from more privileged homes.

When children of private and public schools are matched with respect to intelligence, the latter group continues to exhibit a larger proportion of fears of matters connected with death and of supernatural and mysterious creatures.

The largest difference between children of low and of high intelligence, regardless of school affiliation, appears in connection with fears of criminal characters and fears of supernatural and mysterious creatures. The category "criminal characters" comprises 12.4 per cent of the fears of children with I.Q.'s below 100 as compared with 7.1 per cent of the fears of children with I.Q.'s of 120 or more; the corresponding percentages of fears of supernatural and imaginary creatures are, respectively, 12.4 and 5.6. All the major classes of fears are, however, common to all levels of intelligence. Dull children report a slightly larger proportion of fears of being alone, but bright children slightly exceed the dull in fears of darkness.

CHAPTER IV

COMPARISONS OF FEARS REPORTED BY ADULT OBSERVERS OF PRESCHOOL CHILDREN, BY CHILDREN AGED 5 TO 12 YEARS, AND BY ADULTS WHO DESCRIBED FEARS REMEMBERED FROM CHILDHOOD

IN THE foregoing chapter, the data obtained through various divisions of the present investigation have been compared at several points. The aim in this chapter is to give a general statement of the similarities and differences.

Table VI shows the relative frequency of various fears as reported by (a) adults who observed and reported the fears of children aged 0 to 5 years; (b) 398 children, aged 5 to 12 years, who told about their own fears in response to questions in private interviews; and (c) 303 adults who submitted written, anonymous reports of the fears they recalled from childhood.

In order to provide the comparisons, certain categories that have been treated separately in some of the earlier tables are here combined. Children above the age of 5 years have been excluded from the figures showing the results in data obtained from adults who observed and recorded the fears of young children. The figures shown for adults who described fears recalled from childhood include all items that they reported, including repeated items within the same category.

The table gives the results obtained when all subjects within each division of the study are combined and, in addition, it presents a separate summary of the fears exhibited by the oldest children among those whose fears were observed and reported by others, as well as the fears reported by the oldest children among those who described their own fears.

When comparisons are made between the oldest groups of children within each division and the results obtained from adults,

the similarities in several categories are almost surprising in view of the fact that the data were obtained by widely divergent methods. A discussion of some of these similarities, as well as some of the inconsistencies, follows. In each instance, unless otherwise noted, the comparisons will be made between four- and five-year-old children whose fears were observed and reported by others, eleven- and twelve-year-old children who described their own fears, and adults who described their own fears as recalled from childhood.

Fear of animals (with frequencies of 17, 14, and 19 per cent) stands consistently high in all three divisions. As noted at an earlier point, this category consists of animals actually seen or encountered in the case of the youngest children, while the creatures reported by older children and adults include some remote animals that the child may have encountered in stories and pictures.

The category "danger or threat of possible bodily injury through acts of persons or through accidents" includes respective frequencies of 14, 14 and 17 per cent.

Fear of the dark, of being alone in the dark, and of imaginary dangers when alone or in the dark shows almost exactly the same relative frequencies in each division (12.6, 13, and 12.9 per cent). A closely similar trend is shown in fear of supernatural and imaginary creatures (mentioned apart from darkness and being alone). The respective frequencies here are 6.3, 5.3 and 5 per cent.

Table VI emphasizes again a previously noted trend in the report of fears. As the individual grows older, fears of an anticipatory and imaginative character increase in relative frequency as contrasted with fears in response to contemporary and concrete events. Fears under the heading of sudden and unexpected movements, lights, flashes, etc., show a frequency of 7 per cent in the behavior of children aged 0 to 5 years, 3 per cent in the behavior of children aged 4 and 5 years, 3 per cent in the reports of children aged 11 and 12 years, and 2 per cent in the reports of adults who recalled childhood fears. Noises are named in 20 per cent of all fears observed in children aged 0 to 5 years, 9 per cent

TABLE VI

Comparisons between Findings in Three Divisions of the Investigation as a Whole with Respect to Relative Frequency of Various Fears, Including Comparisons between (1) Data Submitted by Parents Who Kept Records for 21 Days of the Fears of Children, and Additional Data Reported by Other Adults Who Kept Occasional Records; (2) Data Obtained through Interviews with 398 Children, Aged 5 to 12, Who Were Asked to Tell about Their Fears; and (3) Data Submitted by 303 Adults Who Gave Written, Anonymous Reports of Fears Remembered from Their Childhood. The Table Also Gives Comparisons between the Oldest Group of Children Included in the Reports Submitted by Adults and the Oldest Children Included in the Interview Study. All Entries Represent Percentages, Obtained by Dividing the Number of Fears in Each Class by the Total Number of Fears Reported, in the Case of Each Group of Subjects

	Fears Recorded by* Adults from Observations of Chil- dren		Fears Reported by* Chil- dren Who Were Inter- viewed		Fears Reported by Adults When Asked to Record Their Childhood Fears*
	All Subjects: 0-71 Months	Children Aged 48-71 Months	All Subjects: 5-12 Years	Children Aged 11-12 Years	All Adults
Number of subjects	263	47	398	99	393
Number of fears reported	953	127	886	208	1,112
I. Animals; including animals actually encountered in the case of ob- served children, and these as well as remote animals in the case of older subjects who reported themselves	15.1	17.3	20.4	13.5	18.8
II. Specific objects and situations; cause unknown	1.7	.78	.45	0	1.1
III-VII. Sudden, unexpected movements, rapidly approaching objects, lights, shadows, flashes, reflections, lightning	7.1	3.1	2.4	2.9	1.6
VIII. Noises and agents of noise; objects associated with noise (not in- cluding fear of sudden motion plus noise)*	20.3	9.4	3.4	2.9	3.1
VIIIa. Noises and gestures deliberately made to frighten	0	0	5.2	5.3	0
IX. Falling, loss of support, danger of falling, high places	8.3	4.7	1.4	2.4	4.8
X. Pain, including persons inflicting specific painful stimulation, ob- jects and events associated with pain, also medical treatment and medical situation, and objects associated with tactual shock	10.0	8.7	3.0	4.3	5.6

XI. Strange objects and situations	8.1	3.9	.22	.48	1.3
XII. Strange persons, unfamiliar variations connected with familiar persons, also queer, deformed, ancient persons, masked persons	11.3	3.9	2.5	1.4	3.2
XIII. Danger or threat of bodily injury through acts of persons or through situations regarded as dangerous (distinct from falling, noise or specific pain stim.); fighting, confinement, fire, dangers of traffic, drowning, etc.	3.7	14.2	11.5	14.4	17.2
XIVa. Fear due to warnings and warnings about specific persons described as harmful	.73	0	.11	0	.26
XIVb. Apprehension over punishment for misconduct, fears due to unspecified disciplinary measures, fears due to apparent feelings of guilt	.62	1.6	1.2	1.9	2.4
XV. Signs of fear in others	1.0	3.9	.22	0	0
XVI. Loss of property	.1	0	.11	.48	0
XIXa. * Dying, ill health (in absence of actual malady or apart from mention of specific dangerous situation)	.2	0	.56	.96	.3
XXIa. Loss of relative through illness or death; being abandoned by parent	1.8	4.7	1.9	2.9	2.1
XVIII. Ridicule, failure, apprehension over personal appearance, personal inadequacies (present or future); also fear of being presented to or of performing before other people	0	0	1.6	2.9	8.7
XVII. Dreams; events experienced in dreams, fear of dreaming	1.0	3.9	5.1	5.3	1.9
XIXc. Criminal characters (in absence of actual contacts): burglars, kidnapers, etc.	.1	.78	9.4	5.8	4.0
XIXb. Corpses, matters connected with death, funerals, etc.	0	0	2.1	1.4	2.2
XX-XXII. (except XXIa) Being alone or in the dark, also imaginary creatures or dangers feared when alone or in the dark	6.4	12.6	7.9	13.0	12.9
XXIII. Imaginary creatures, supernatural creatures (apart from specific mention of being in dark or being alone)	2.2	6.3	11.1	5.3	5.0
XXIV. Characters met in or remembered from stories, movies and the radio, and specifically referred to such sources	0	0	8.2	12.5	1.1

* The values represent a tally of all fears, whether the same child showed one or several fears of the same class (e.g., fear of three specifically named groups of animals, such as dogs, horses, cats, received a tally of three).

of fears observed in children aged 4 and 5 years, 3 per cent of fears reported by children aged 11 and 12 years, and 3 per cent of fears recalled from childhood by adults. In the case of fears of falling and high places, with corresponding percentages of 8.3, 4.7, 2.4 and 4.8, the decline can be observed, but it is not as marked or as consistent as in the case of noise. The same may be said of pain, with respective frequencies of 10, 9, 3 and 6 per cent. There is a decline also in fears of strange objects, situations, and persons; these events combined show respective percentages of 20, 8, 2 and 4.

Noises, gestures, and tales apparently produced with the deliberate intention of frightening the child are segregated in the case of the children who reported their own fears. They could not so readily be segregated in the other divisions of the investigation, so no comparisons can be made.

A large discrepancy appears in connection with the category "characters met in or remembered from stories, movies, etc." This category was not tallied separately in the case of the children whose fears were observed and reported by others. Adults reported many fears that apparently were associated with this category, but in phrasing the descriptions of their fears, the adults did not frequently identify their fears in terms of a specific story or picture. When this category is added to the general category of "imaginary and supernatural creatures" the eleven- and twelve-year-old children quite exceed the frequencies shown for this category in fears observed in four- and five-year-old children and in fears recalled by adults. The difference in the last-named instance may be due in part to a difference in mental status. The adults represented a somewhat higher level of I.Q. than did the children, and as noted in an earlier chapter, fears of imaginary and supernatural creatures were more frequently reported by children of lower than by children of higher intelligence. Apart from this factor, however, the data seem to indicate that fears of fictitious creatures occur more frequently in the actual life of the child than they do in his later recollections.

The most noteworthy discrepancy between the various groups

occurs in connection with the category "ridicule, failure, apprehension over personal appearance, personal inadequacies, being presented to or performing in the presence of other people." No fears of this character were observed in the behavior of four- and five-year-old children. (As shown in earlier tables, the records submitted by adults who observed and reported children's fears did contain a few fears of this character in the case of children above the age of five.) Almost 9 per cent of the fears recalled by adults, as contrasted with only 3 per cent of the fears reported by eleven- and twelve-year-old children, fell in this category.

The discrepancy here may be due in part to a difference in the mental status; the adults, on the whole, represented a higher level of I.Q. than did the children who reported their current fears. However, the discrepancy also seems to suggest a point of difference between the retrospective concepts which older persons have concerning their childhood and the concepts entertained by children themselves. The concept of apprehension over failure, personal inadequacy, and public appearance may represent a mature interpretation of reactions that the child himself experienced but was unable to put into words. It is possible also that such reactions might not occur to children in connection with the subject of fears even though they might have revealed apprehensions of this sort if they had been questioned specifically. It might be pointed out, incidentally, that the low frequency of fears of this category in the reports of the children who were interviewed is in keeping with the character of their replies in response to questions on other topics. As pointed out in the original study, only a relatively small percentage of the children exhibited a degree of self-appraisal similar to that often shown by adults. For example, when each child was asked what he would wish if anything he wished could come true, and again, what he would ask if he could be changed and be different from what he now is, only a few asked for improvements in their personal qualifications by naming such benefits as improved ability, skill, physical strength, attractiveness, courage, and the like. On the other hand, they freely expressed wishes for such matters as

objective possessions, for opportunities for play and amusement, and for an adult occupation.

Apart from such discrepancies as have been noted, the results obtained in the three divisions of the investigation—through observation, reports by children themselves, retrospective reports by adults—show a degree of consistency quite surpassing anything that had been anticipated by the investigators when the various projects were undertaken.

Part III

AN EXPERIMENTAL STUDY OF THE FEARS OF YOUNG CHILDREN

Frances B. Holmes

CHAPTER I

INTRODUCTION

THIS investigation was designed to study the behavior exhibited by young children when they are confronted with situations that might produce fear. The methods employed were not designed to frighten the child but to discover whether the child would voluntarily enter into situations which have been regarded as effective in causing fear. The aim of the study was to record how children behaved when they participated in such situations or refused to do so.

It is obvious that any fear stimulus could be magnified to the point where it would frighten almost any child. But such an attempt deliberately to frighten a child would not tell us much concerning the type of situation which commonly arouses a fear response when children are living their normal everyday existences. What we do want to know is how children react to situations comparable to those they might and do encounter in their everyday lives, in the home, on the street, and on the playground. But what are the situations, occurring in the ordinary life of the young child, which are generally considered to be fear-inspiring?

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Some of them have been mentioned by observers and recorders of the behavior of young children, for the importance of the problem of fear is stressed by most writers on the behavior and guidance of young children. Some of the discussion of this problem is based on actual experimental work; much of it is based on observations of instances of fear displayed by one or two children. The following review will attempt to set forth some of the material that has been presented by various writers concerning children's fears.

PREVIOUS STUDIES OF CHILDREN'S FEARS

The fact that a child's susceptibility to various fear stimuli and his reactions to these stimuli change with age has been noted. That a child's fears are undoubtedly a function of his developmental level has been well expressed by Gesell's statement¹ that fear may be an original tendency but it is subject to the genetic alterations of organic growth as well as to organization by environmental conditioning. He suggests that such conditioning may determine what things are feared, but the mode of fearing undergoes change as a result of maturation. Fear is not a simple entity, but is shaped by intrinsic maturation as well as by experience, certainly during the period of infancy.

Although the relation of fear to age has been observed, very little is definitely known as to the age of first appearance or the duration of the various types of fear. Watson² in his often quoted work on the newborn found only two situations which elicited responses which he called "fear": loss of support, and a very loud noise. He states, however, that not all loud noises cause fear and that low-pitched rumbling noises, the high tones of the Galton whistle, and the pure tone of the tuning fork were all ineffective.³ Most observers of young infants agree that starting at a sudden noise occurs at a very early age, although a wide

¹ Gesell, Arnold. *The Guidance of Mental Growth in Infant and Child*, p. 289, 1930.

² Watson, J. B. and Rayner, R. "Studies in Infant Psychology," *Scientific Monthly*, Vol. 13, pp. 506-07, 1921.

³ Watson, J. B. *Behaviorism*, p. 121, 1924.

variety of different sounds are reported as eliciting this response, and no one sound causes fear in all children.

Gesell⁴ observed in infants of 4 months of age starting and blinking caused by the slamming of a door and the ringing of a telephone bell. Millicent Shinn⁵ reported, in her daily observation records of one child, that the sudden tearing of paper caused crying on the sixth day. She also stated that sensitiveness to sound seemed variable, as the rustling of paper caused no clear reaction on the twenty-third day. Dearborn,⁶ who also made daily records of one child's behavior, recorded fear of the noise of a piece of paper crackling and of an unnaturally high-pitched voice at 3½ months. Valentine,⁷ who kept records on his five children, noticed fear caused by a loud sound in an infant 10 days old. He also suggests that the novelty of the sound is of some importance. He observed that a child of 52 days, who showed fear when a paper was suddenly torn, gave no response when this was repeated three or four times. But he also points out that not all novel sounds caused fear. English⁸ records the case of a child of 7 months who was offered a black stuffed cat at the moment when her sister suddenly howled. The child was frightened by the noise and also developed a conditioned fear of the stuffed cat. Another child of 14 months was given a toy duck to play with and as she grasped it a metal bar was struck suddenly and very loudly behind her head. She showed no fear of the duck or the sound, although it was repeated for fifty trials. English concludes from this that it is the element of suddenness which is effective in causing a fear response, and that this did not operate in the case of the older child who had become accustomed to loud sounds in her own home. On the other hand, Irwin⁹ reports a study in which twelve infants were

⁴ Gesell, *op. cit.*, pp. 28-29.

⁵ Shinn, Millicent W. *Notes on the Development of a Child*. University of California Publications in Education, Vol. I, p. 107, 1909.

⁶ Dearborn, George V. N. *Moto-Sensory Development*, pp. 44-46, 1910.

⁷ Valentine, C. W. "The Innate Bases of Fear." *Journal of Genetic Psychology*, Vol. 37, pp. 394-421, 1930.

⁸ English, Horace B. "Three Cases of Conditioned Fear Response." *Journal of Abnormal and Social Psychology*, Vol. 27, pp. 221-25, 1929.

⁹ Irwin, Orvis C. "The Latent Time of Body Startle in Infants." *Child Development*, Vol. 3, pp. 104-107, 1932.

subjected to the sudden loud tones of a loud-speaker placed within four inches of the head. The presentation of these tones was accompanied by body startle but in no case by crying. Jersild and Holmes¹⁰ report in a study of the fears of 153 children, whose parents recorded any fear behavior they observed during a period of twenty-one days, that of eight children under one year of age six were observed to show fear of a sudden noise. Loud sounds, however, are less frequently mentioned as a cause of fear in children over 1 year. Although in the study mentioned above fears of loud sounds were observed in children of 3 and 4 years, the general trend in this study seems to be that as the child grows older the effectiveness of sound as a fear stimulus decreases.

Loss of support, caused by a sudden shake or push or by a sudden pulling of the blanket on which child is lying, is regarded by Watson¹¹ as the second stimulus eliciting an innate fear response. He describes this response in the newborn as catching of breath, random clutching with hands, puckering of lips, and crying. Irwin,¹² in his study of infant responses to vertical movements, found that young infants could be dropped a distance of two feet and then caught again without showing any signs of emotional disturbance. Watson¹³ himself mentions that in a child of 9 months removal of support, although it was "tried exhaustively," did not elicit any fear response. He believes that this stimulus is effective in younger infants and that it is possible that this child of 9 months had already outgrown the response. He says, "At what age such stimuli lose their potency in producing fear is not known." The fear of loss of support has been observed at an early age by many others besides Watson. Stern,¹⁴ whose observations are based on records of the behavior of his own children, mentions a start of fright at 1 month

¹⁰ Jersild and Holmes, *op. cit.*

¹¹ Watson, J. B. and Rayner, R. "Studies in Infant Psychology." *Scientific Monthly*, Vol. 13, pp. 506-07, 1921.

¹² Irwin, Orvis C. "Infant Responses to Vertical Movements." *Child Development*, Vol. 3, pp. 167-69.

¹³ Watson, J. B. and Rayner, R. "Conditioned Emotional Reaction." *Journal of Experimental Psychology*, Vol. 3, pp. 1-14, 1920.

¹⁴ Stern, William. *Psychology of Early Childhood*, 3rd edition, p. 133, 1924.

caused by the sudden movement of the couch on which the child was lying. Valentine,¹⁵ observed crying caused by withdrawal of support in an infant of 20 days. Dearborn¹⁶ noticed signs of fear in a child of 6 months, while being carried upstairs. The above writers do not mention this fear as occurring so frequently after one year, nor do they mention a fear of high places without the element of loss of support or falling included.

In Test 8 of the series for the three-months-old child in Buhler's¹⁷ Tests for the First Year of Life, the examiner suddenly places a mask before her face. The child is scored plus if he shows a "Frightening and negative reaction when the mask appears." In the series for the eleven-month-old child, Test 6 is called "Fear of the Unfamiliar," and is described as follows: "Anything which is new to the child can be used for this item—a new toy, a strange person, or a strange situation." In Gesell's¹⁸ Infant Development Recording Schedule in the normative summary for the three-months level there is this item: "Startles or betrays awareness when suddenly changed to a strange situation." Gesell has also found that the child of 6 months has the ability to discriminate between strangers and familiars. Jones,¹⁹ however, makes the statement that "infants under a year of age showed no fear of a false face—their reactions were positive and relatively undiscriminating."

Since children at 3 months of age are able to make the distinction between the strange and the familiar it is not surprising that various observers have recorded fear caused by the sudden presentation of a strange object, situation, or face. Dearborn²⁰ observed fear of strangers in a child of 4½ months. Valentine²¹ records fear of a "hideous mask" at 8½ months. There seems to be another type of fear closely allied to this fear of strangeness which might be called fear of an unfamiliar element in the

¹⁵ Valentine, *op. cit.*

¹⁶ Dearborn, *op. cit.*, p. 80.

¹⁷ Buhler, Charlotte. *The First Year of Life*, pp. 212, 237, 1930.

¹⁸ Gesell, Arnold. *Infancy and Human Growth*, pp. 129-131, 1925.

¹⁹ Jones, M. C. "A Study of the Emotions of Preschool Children." *School and Society*, Vol. 21, pp. 755-58, 1925.

²⁰ Dearborn, *op. cit.*, p. 63.

²¹ Valentine, *op. cit.*

appearance of a familiar person or object. Stern²² calls this, "fear of the uncanny," and noticed its appearance at 12 months of age at the sight of a doll with its hair half off and a hole in its head. Dearborn²³ observed a fear reaction to an almost identical situation in a child of 13 months. Valentine²⁴ also discusses this fear of the uncanny although he separates this from fear of the unfamiliar appearance of the familiar. He records a fear in a girl of 12 months occurring when she saw her brother in a black costume, and again at 14½ months caused by the sight of her brother with a paper bag over his head. He calls those two instances fear of the unfamiliar appearance of the familiar, and a fear in a child of 17 months caused by the sight of her father crawling on the floor and imitating a monkey, he calls fear of the uncanny. He believes that this fear of the uncanny cannot be explained by past experiences and suggests it may be an innate fear. These fears are very much alike and most observers of children agree that they first appear around one year of age.

Ellisor²⁵ reports a study designed to test the hypothesis that visual stimuli can arouse negative responses only when conditioned to loss of support or to a loud sound. The subjects were two girls 2 years of age. The stimuli were a devil's mask, a brown fur, a flashlight, and a movie. The author makes the statement that the two children had never been conditioned by these stimuli. The first presentation of each stimulus, except for the flashlight, elicited a crying response in at least one of the subjects. The negative responses disappeared with repetition of the stimuli. Ellisor concludes that this study tends to show that not all responses to visual stimuli are conditioned and that either some visual stimuli cause crying or the contrast between the familiar and the unfamiliar causes crying. However, the evidence presented in the study does not necessarily indicate that the children had never been conditioned to these, or similar, visual stimuli. The fact that the first presentation of one of the stimuli

²² Stern, *op. cit.*

²³ Dearborn, *op. cit.*, p. 137.

²⁴ Valentine, *op. cit.*

²⁵ Ellisor, Martha. "Children's Reactions to Novel Visual Stimuli." *Child Development*, Vol. 4, pp. 95-105, 1933.

(brown fur) caused crying in one of the subjects and not in the other might be interpreted to mean that one of the subjects had been previously conditioned to this stimulus, while the other had not.

The fear of the dark is one of the situations which Watson²⁶ included in his study of three young infants. These infants had never been out of the hospital. A child of 172 days was taken into a dark room where there was faint illumination. She showed no fear in the dark room, even when other stimuli were presented. Another child, 175 days old, was taken into the same dark room and a newspaper was burned in front of her. She showed no signs of fear. A third child, 126 days old, was put through the same experiments. When held by a stranger in the dimly lighted room she began to cry. Watson concludes from the experiments on the three children that there is no innate fear of the dark. Dearborn²⁷ observed in his child at 176 days "fear or depressing discomfort of the dark seems to be developing—at nightfall she cries, but stops at once when the light is lit." Valentine²⁸ states that he did not observe early fear of the dark in any of his children. The earliest indication of this fear was noted at 25 months when the child refused to enter a dark cellar. He observed that this fear persisted after it had developed, and around 5 years of age a fear of imaginary creatures occurred together with fear of the dark. He observed this in a boy as old as 7 years 7 months. He also notes the fact that one of his children never showed any fear of the dark, which suggests the importance of individual differences. Stern²⁹ did not record the appearance of any fear of the dark until the age of 4 years 2 months, when the child developed fear of being left alone in the dark, and fear of unusual noises. Most observers seem to agree that fear of the dark seldom appears before two years of age.

In Watson's³⁰ experiments designed to discover if there were other innate fears besides those caused by loss of support or

²⁶ Watson, J. B. *Psychology from the Standpoint of a Behaviorist*, p. 232, 1924.

²⁷ Dearborn, *op. cit.*, p. 79.

²⁸ Valentine, *op. cit.*

²⁹ Stern, *op. cit.*

³⁰ Watson, J. B., *op. cit.*, p. 232.

loud noises, a variety of animals were used as stimuli. A girl infant of 165 days made only positive movements toward a black cat who was allowed to rub against her, a pigeon in a bag whose wings flopped in her face, and a rabbit and a white rat. A girl 172 days old was taken into a dark room with faint illumination and a dog jumped up on the couch beside the child. She did not reach for the dog, but showed no negative reactions. An infant of 175 days was placed alone in a room, tied to a chair. A dog suddenly appeared and rubbed against her. She showed no fear when this occurred, nor later when the cat and rabbit were also presented. A fourth child, age 126 days, was subjected to the same experience. Her behavior was slightly different. When the cat rubbed against her she started and stiffened. When the pigeon flapped its wings in her face she gave a distinct jump, otherwise her behavior corresponded to that of the other three infants. Another child of 11 months showed no fear when first presented with a rabbit, a white rat, etc. Watson³¹ concluded from these experiments that there was no evidence to support a belief in an innate fear of animals.

Valentine³² comes to quite a different conclusion based on his own observations. A child of 17 months showed no fear when a dog approached and licked his feet. This same child three months later was afraid of a dog after having heard the dog yelp. Valentine remarks here that the quickly established fear of the dog suggests an instinct lurking, ready to appear when occasion arises. He does not mention that the sudden noise might have caused a conditioned fear of the dog. He tried the following experiment on a child of 12½ months. He placed a pair of opera glasses within reach of the child. As the child reached for the glasses he suddenly blew loudly on a whistle. This caused no negative reaction. Later as the child was reaching out toward a fuzzy caterpillar, he again blew the whistle. This time the sound caused crying and withdrawal from the caterpillar. He suggests that although Watson found no fear of animals up to 11 months of

³¹ Watson and Rayner. "Conditioned Emotional Reactions." *Journal of Experimental Psychology*, Vol. 3, pp. 1-14, 1920.

³² Valentine, *op. cit.*

age, an innate fear of animals might be ready to mature only at from 18 to 24 months of age. This author also mentions as an example of an innate fear of animals the behavior of a child of 11½ months who showed no fear at the first sight of a horse, but when it moved its nose toward her and opened its mouth she became afraid. Valentine does not seem to recognize here the possibility that the sudden movement of the horse might have been the element in the situation which caused the fear.

Jones advances the theory that "children tend to be afraid of things that require them to make a sudden and unexpected adjustment."³³ In a study of the reactions of preschool children to flashlights, darkness, false faces, snakes, rabbits, and frogs, it was found that the animal that most often caused fear was the frog when it suddenly jumped. When a large snake was presented to fifteen children between the ages of 14 and 79 months, seven of them with ages ranging from 14 to 27 months showed no indications of fear. Of the remaining eight children, with ages between 26 and 79 months, all showed "guarded reactions." Only one child under 3 years showed fear of this snake. The author reports a correlation of age with degree of fear shown, in these fifteen cases, of .67.³⁴ When the same snake was presented to school children, aged 6 to 10 years, only nine of twenty-six children showed definitely restive behavior. "These were chiefly boys and chiefly the oldest." The snake was introduced to a group of adults, of whom one-third refused to have the snake brought near, one-third touched with obvious dislike, and the remaining one-third showed no disturbance when touching it. Jones offers as an explanation of the greater occurrence of fear of the snake in older children and adults that general maturation of behavior leads to greater sensitiveness and more discriminatory responses.³⁵ In the study previously mentioned of 153 children observed by their parents for evidences of fear,³⁶ fears of animals

³³ Jones, H. E. and Jones, M. C. "A Study of Fear." *Childhood Education*, Vol. 5, pp. 136-43, 1928.

³⁴ Jones, M. C. "A Study of the Emotions of Preschool Children." *School and Society*, Vol. 21, pp. 755-58, 1925.

³⁵ Jones, H. E. and Jones, M. C., *op. cit.*

³⁶ Jersild and Holmes, *op. cit.*

were reported in only two children under 12 months, while 35 per cent of the children aged 12 to 23 months had shown fear of various animals. The per cent of children showing this fear consistently increased with age, up to 48 months.

In any discussion of the emotional behavior of very young infants it should be mentioned that various studies have tended to show that there can be little certainty in judging the exact type of emotion expressed. In Sherman's³⁷ study of the differentiation of emotional responses in infancy he reported that a group of graduate students, instructors in psychology, nurses, etc., were not able to agree as to the meaning of the emotions expressed by infants subject to restraint, sudden dropping, etc., when they saw only the responses and not the stimuli which elicited them. Goodenough,³⁸ on the other hand, reports an experiment designed to determine the degree of accuracy with which the expressive behavior of an infant of 10 months, as shown in photographs, could be identified with the stimuli calling it forth. It was found that photographs and situations were matched correctly, sixty-eight university students acting as the judges, in 47.4 per cent of the cases. This is 5.7 times the percentage of success to be expected by chance. Goodenough concludes that there is a core of native reaction patterns for the expression of emotions which occurs so early in infancy that it cannot be determined by training.

³⁷ Sherman, Mandell. "The Differentiation of Emotional Response in Infants." *Journal of Comparative Psychology*, Vol. 7, pp. 265-84, 1927.

³⁸ Goodenough, Florence. "Expression of the Emotions in Infancy." *Child Development*, Vol. 2, pp. 96-101, 1931.

CHAPTER II

PROCEDURE AND DESCRIPTION OF EXPERIMENTAL FEAR SITUATIONS

IN THE foregoing review it will be noted that many situations are described as being more or less effective in causing fear. The aim of this study was to select from such situations a number which could be experimentally presented in such a way that the children used as subjects would not actually be frightened, but would be allowed to choose whether or not they would enter into the fear situation. An attempt was made to make these experimental fear situations as similar as possible to those which children might encounter in their everyday environment. It was necessary that they be of a type that could be simply and easily presented under laboratory conditions; in other words they had to be carefully controlled and presented under constant conditions. These experimental situations also had to be arranged in such a way that it would be possible to observe and record the behavior of the subjects when exposed to them. And, finally, in order to make such experimental work with young children possible, these fear situations had to be such that a child could participate in them without realizing that he was being experimented upon. With these qualifications in mind eight experimental fear situations were finally selected. They will be described in the following pages.

The subjects were 105 children with ages ranging from 24 to 71 months. Children of this age are peculiarly suited to experimental work of this kind. They are probably not yet at the age where their emotional behavior is much affected by the pressure of social opinion. A boy of seven or eight may be afraid of a dark room, but his dislike of possible ridicule by others in his group may force him to enter the dark room in spite of his fear.

This is not nearly so likely to occur in the case of a child of three. Therefore by using as subjects children of preschool age it is likely that one may obtain a truer picture of this type of emotional behavior than could be obtained if older children were used as subjects.

An important element in the selection and presentation of these fear situations was the avoidance of complicating factors such as resistance on the part of the child, possible carry-over of fear from one situation to another, or the occurrence of conditioned fears of the experimenter or the experimental room. The evidence that will be presented in a later section on reliability of the data suggests that the situations were presented in such a way that these factors did not occur to any observable extent and that they therefore did not influence the results.

The experimenter became well acquainted with each child on the playground or in the nursery before he was asked to participate in the experiments. When the child and the experimenter had thus established friendly relations, the child was invited to come and "play games" with the experimenter. If he refused because he did not want to leave the playground, or for any other reason, the experiments were postponed until he was ready and willing to participate. If, on the other hand, he was quite willing to accompany the experimenter, which was usually the case, he was conducted to the experimental room.

The experimental room had two doors, one an entrance from the main hallway and the other leading into a corridor connected with another room. The experimental room contained a small table and two small chairs. It also contained the apparatus for the High Boards, which will be described presently. One corner of the room was separated and concealed from the other by screens, and in this alcove was placed the apparatus for making a Loud Sound, which will also be described later.

As soon as the child entered the experimental room he was seated at the small table and given a toy to play with. Some incidental conversation usually took place and the experimenter waited until the child seemed completely at ease before beginning the experiments. In order to determine whether the child was

ready to coöperate he was given a manipulative toy, colored rings which fitted on a stick, and asked to remove the rings from the stick and then to put them back on again. When the child had complied with these directions and the experimenter felt that rapport was well established and that there were no signs of resistance, she then started with the first situation, as follows.

SITUATION I. BEING LEFT ALONE

Description of situation and apparatus: The child was seated at the table playing with a toy.

Directions: "I left my handkerchief in the other room, I'm going out to get it." If the child seemed not to hear or understand this statement the experimenter repeated it in an effort to insure that the child knew why she was leaving.

The experimenter then left the room and remained outside for two minutes. An observer, concealed behind the door between the experimental room and the corridor that stood slightly ajar, was able to see and record the child's behavior while he was supposedly alone. If the child objected to being left alone, cried, or tried to follow the experimenter, this was recorded and the experiment was terminated. Otherwise the experimenter returned to the room at the end of two minutes and joined the child in playing with a toy before beginning the next situation. If the child had seemed fearful or in any way upset by what had transpired the experimenter did not go on to the next situation until she was assured that the child was once more at ease.

SITUATION II. FALLING BOARDS

Description of situation and apparatus: The apparatus for the situation consisted of two boards laid end to end and flush with one another. They were both three feet long, one foot wide and one inch thick. The first board (the one on which the child was directed to step first) was securely supported at each end by blocks on which it rested and which raised it two inches from the floor. The second board, which was placed end to end with the first one, was not supported at the ends, but only at the center by a block raising it two inches from the floor. This board had

the same appearance as the first board, but actually as the child stepped from the end of the first board to the edge of the second, the latter tilted down to the floor. In other words, if a child stepped from the first board to the second, the end of this board would give way and suddenly descend to the floor (a distance of two inches) while the other end was tilted upwards.*

Directions: a) Preliminary directions: "See how nicely you can walk along this board." When the child had complied with the request and the board had descended suddenly, the experimenter said, "The board tipped, didn't it? We'll fix it so that it can't tip again." Then the board was adjusted so that it would remain in place and the next directions were, "Now see how nicely you can walk along the boards again." If the child refused, a standard form of urging and reassuring was used, as follows:

b) Urging and reassuring: "You can do it, — (name), go ahead." This was repeated several times if the child did not comply. If the child continued to refuse to perform, the experimenter always offered to enter into the situation herself and to accompany or help the child.

c) Offer to accompany: "Then take my hand and walk across." The child was always praised for his performance, if he did perform, and there was an interval of play before the next situation was introduced. Then the next situation followed:

SITUATION III. DARK ROOM

Description of situation and apparatus: A large red ball was produced and the experimenter invited the child to come with her for a game of ball. "We'll go into a room where we can have plenty of room to throw the ball." This was a large gymnasium with a passageway eighteen feet long, leading from one corner. With the lights on in the gymnasium this passageway, with the door closed at the other end, was not completely dark, but dark enough so that after one had taken two or three steps one could not see ahead. In other words, this passageway was

* This situation might not be considered, strictly speaking, to fulfill the qualifications previously mentioned, of allowing the child to enter voluntarily into the fear situation. However, he is given the choice as to whether or not he will walk on the board a second time.

as dark as any unlighted room in a house at night. This complied with the aim of the study, to create experimental situations which would, whenever possible, be similar to those which occur in the child's daily life. A completely dark experimental laboratory would not comply with these conditions. The experimenter started a game of ball with the child and first made sure that the child understood the directions, "Get the ball. Throw me the ball," etc. Then when the game was thoroughly under way, and the child appeared to be enjoying it, the examiner maneuvered the child so that he was standing near the door to the dark passageway. She threw the ball toward the child but aimed it so that it went into the passageway instead.

Directions: a) Preliminary directions: "See where the ball went." (Pointing to the open door.) "Go in and get it and then we'll play ball again."

b) Urging and reassuring: "It's in there. You can find it. Go ahead." If the child continued to refuse and it seemed evident that he would not enter the passageway the examiner offered to accompany him.

c) Offer to accompany: "Then we'll both go in and look for the ball." When this experiment was completed the examiner suggested to the child that they return to the first room to find some more games. The next situation followed.

SITUATION IV. STRANGE PERSON

Description of situation and apparatus: Two chairs were placed in definitely marked positions in the room three feet from the entrance. On the chair nearest the door a woman was seated dressed in a long gray coat, a large black hat, and a black veil that completely covered and obscured her features. On the other chair eighteen inches from this person, was placed a box of six or seven brightly colored small toys. The chairs were so arranged that as the door to the room was opened the child could see both the strange woman and the toys at one glance. In order to reach the chair on which the toys were placed, however, it was necessary for the child first to pass close to the chair on which the stranger was seated, or else make an obviously wide detour

around her. Also the two chairs were placed only eighteen inches apart so that when reaching for a toy the child had to be quite near the strange person. The child and the experimenter approached the door of the room together. The experimenter opened the door when the child was standing in front of her, so that the child started to enter the room as the door opened, but the experimenter remained outside.

Directions: a) Preliminary directions: "See those toys on the chair? You can go in and get one to play with."

b) Urging and reassuring: "You can do it, go ahead. Take one of the toys to play with." If the child asked any question about the presence of the strange person the experimenter explained that she was just someone who happened to come in and sit down there.

c) Offer to accompany: "Then we'll both go in to get a toy." When the child had the toy he was permitted to take it into the adjoining hallway to play with it for a minute or two until the strange person had left the room by another door. Then the child and the experimenter entered the room again and played for a few minutes with an interesting toy.

This was the last of the experimental situations presented on the first day. The four experiments, including the intervals of play, took approximately fifteen minutes.

SITUATION V. HIGH BOARDS

Description of situation and apparatus: The apparatus for this experiment was set up in the experimental room. Two ladders, one fastened to the wall and one standing in the center of the room, supported a board 12 inches wide, 7 feet 9 inches long, and 2 inches thick. This was so arranged that the board was held very firmly and it was thick enough so that it did not bend in the center when walked on. This board could be moved so that it might be placed at distances of approximately two, three, four, five, and six feet from the floor. The exact distance from the board to the floor when placed on the five different rungs of the ladder was as follows: 1 foot 7 inches, 2 feet 9 inches, 3 feet 9 inches, 5 feet 1 inch, and 6 feet 4 inches. Under the board a

mattress 4 inches thick was placed for protection. At one end of the board was placed a box of brightly colored small toys.

The child's attention was called to the toys on the board. When the child showed an interest in them or expressed a desire for the toys he was taken to the apparatus and lifted up onto the other end of the board, which was always placed four feet above the floor for the first trial. He was placed standing as near to the far end of the board as possible, facing forward. It was necessary to lift the child up to the board rather than have him climb up himself in some way because children differ in their climbing ability and this difference might, in such a case, affect the performance on the board itself. Therefore in order to make the situation identical in every case, each child was lifted onto the board. When the child was standing on the board the directions were given.

Directions: a) Preliminary directions: "See how nicely you can walk across and get a toy."

b) Urging and reassuring: "You can do it, — (name), go ahead." If the child said, "I'll fall," etc., the reply was, "No, you won't fall. You can do it."

c) Offer to accompany: "Then take my hand and walk across."

In each case the board was placed four feet from the floor for the first trial. If the child refused to walk across, or would walk across only with the help of the experimenter, then the board was placed at three feet for the next attempt. Then if the same behavior occurred it was placed at two feet from the floor. If the child performed without help on the board when placed at four feet from the floor, it was moved up to five feet, and if that height was accepted, then up to six feet. Between each trial the child was lifted from the board with the toy he had succeeded in obtaining, and was allowed to play with it for a few minutes before continuing. There were always enough toys in the box to provide a lure for several trials. Also it was noted that the very procedure of walking the board seemed in itself to be an incentive to action, for many children asked to be allowed to walk again after the experiment had been terminated.

SITUATION VI. LOUD SOUND

Description of situation and apparatus: The apparatus for producing a sound was set up behind a screen in one corner of the experimental room. It consisted of an iron pipe, 2 feet in length with a diameter of $2\frac{1}{4}$ inches, suspended from the ceiling by a wire and hanging so that the lower end of the pipe was three feet from the floor. A noise was produced by hitting this pipe in the center with a hammer. This produced a very sharp, loud noise.

The child and the experimenter were seated at the table, approximately eleven feet from the iron pipe, playing with a toy. The child was, of course, entirely unaware of the apparatus behind the screen. At the moment when the child had completed his manipulation of the toy and was ready for another, the experimenter gave the signal and an assistant behind the screen, whose presence was unknown to the child, struck the iron pipe with the hammer. This produced an unexpected loud noise coming from an unseen source. The experimenter observed and recorded the child's behavior when the sound occurred and then asked him to investigate the source of the sound.*

Directions: a) Preliminary directions: "Go and see what made that noise, —(name)" (pointing toward the screen).

b) Urging and reassuring: "Go ahead, see if you can find out what made that noise."

c) Offer to accompany: "Then let's go together and see what made the noise."

In every case the child was eventually shown what had caused the sound, and allowed to hit the pipe himself if he expressed a desire to do so. If the child had shown fear and refused to approach the screen, even when accompanied by the experimenter, the screen was removed and he was shown the apparatus and a slight noise was made by way of explanation and reassurance.

These last two situations, the High Boards and the Loud Sound, occurred on the second day that the child came to

* This situation, like the Falling Boards, might be considered actually frightening in itself. The child experiences the loud sound before he is given the choice as to whether he will investigate the source of the sound.

the experimental room. The time required was approximately ten minutes.

SITUATION VII. SNAKE

Description of situation and apparatus: The children were introduced to the two following experiments about a month after they had completed the first six. The snakes used in this experiment were a harmless garter snake, 22½ inches long, and a harmless ribbon snake, which very closely resembled the garter snake, 24 inches in length. Two different snakes were used because the experiment was started with the garter snake and when it was continued later there were no garter snakes available, so a ribbon snake was used. However, the snakes looked and acted so much alike that it did not appear that the situations were changed in any significant way by using a different variety of snake for part of the study.

The snake was placed in a box, deep enough so that it could not immediately climb out when the cover was removed, and in the box there was also placed a small colored toy. The child was brought into the experimental room, and allowed a few minutes play to be sure he was entirely at ease. Then the experimenter approached the box containing the snake.

Directions: a) "Would you like to see what I have in this box, —(name)?" (Every child in the study signified his interest by approaching the box.) Then the observer removed the cover and let the child look into the box. She made no comment about the snake and did not tell the child what it was unless he asked. If he said, "What is that?" she merely said, "It's a snake." If he said, "Is it a real snake?" the experimenter replied, "Yes, it's a real snake." Then she continued with the directions as follows: "See the little toy? Reach in and get the toy."

b) Urging and reassuring: "Go ahead. You can reach in and get the little toy." If the child said, "Will he bite me?" the observer replied, "No, he won't bite you." If the child continued to refuse to reach into the box, the observer then offered to enter into the situation herself. (This corresponded to the "Offer to Accompany" in the other situations.)

"Watch me, I'm going to reach in and pat the snake." She then reached into the box and stroked the snake with her fingers several times. "Now you reach into the box, ——(name), and get the toy." When this part was completed and the child had taken the toy, or continued to refuse to do so, the experimenter always said, "Now reach in and pat the snake."

It should also be noted here that the experimenter attempted to see that the behavior of the snake was the same on every occasion. The snake was quite lively and when the cover of the box was removed it usually glided around, lifted up its head and protruded its tongue. If it sometimes happened that the snake was lethargic and remained still, the experimenter would tap on the side of the box or shake it, and in this way cause the snake to move around as usual.

SITUATION VIII. LARGE DOG

Description of situation and apparatus: The child was seated at the table with the experimenter and facing the door. When he turned his attention away from the toy he was manipulating the experimenter gave the signal and a large collie dog was brought in the room on a leash by a person familiar to the child. The dog was lead to a certain point in the room, six feet from the child. The experimenter made some comment, such as, "See what Miss —— has."

Directions: a) Preliminary directions: "Go and pat the dog, ——(name)."

b) Urging and reassuring: "Go ahead, you can pat the dog." If the child said, "He'll bite me," the experimenter always replied, "No, he won't bite. He'd like to have you pat him."

c) Offer to accompany: If the child refused to pat the dog, the experimenter said, "See, I'm going to pat the dog." (Does so.) "Now let's both go over and pat the dog."

These last two situations, the Snake and the Large Dog, were given on the same day. The time required was about eight minutes.

It should be especially noted here that in each situation, with the exception of Situation I, Being Left Alone, the procedure al-

lowed for four distinct steps: first, the preliminary directions; second, if the child made objections, urging and reassurances; and third, if the child continued to refuse, the experimenter offered to accompany the child or enter into the situation with him. Then, fourthly, if the child still refused to perform, even with the help of the experimenter, the experiment was ended. This procedure will be referred to later when the method of scoring is discussed.

The experiments always took place during the children's free play period from nine to eleven in the morning.

THE PROBLEM

It was planned that the findings based on the behavior of the subjects in the above situations should yield data on: (1) The type of situation which causes signs of fear in children of the various ages included in the study. (2) The relation of this behavior to age, sex, and intelligence. (3) Individual differences regarding both the frequency of signs of fear and the character of the behavior shown. (4) Results of variations in certain fear situations. (5) The relation between these findings and (*a*) the parents' reports of their children's fears, and (*b*) the fear behavior shown by each child in these situations as compared with the nursery school teachers' ratings of these children as to fearfulness. (6) The comparison of the findings obtained from two groups of children of different socio-economic status. (7) The relation of these data to records of developmental history, other measures of personality, and case study records.

CHAPTER III

DESCRIPTION OF SUBJECTS AND RECORDING TECHNIQUE

SUBJECTS

THE 105 children who were the subjects in the main part of this study consisted of 57 boys and 48 girls, with an age range of 24 to 71 months. More than half of these children were from a private nursery school in New York City (the nursery school of the Child Development Institute). The parents of this group of children were of a relatively high socio-economic status. The remaining children were obtained from a day nursery in New York City (the Manhattanville Day Nursery) and came from relatively poor homes. The distribution of the subjects from the two nursery groups, arranged according to age and sex, is shown in Table I.

TABLE I

Distribution of 105 Subjects in Private Nursery and Day Nursery School Groups
According to Age and Sex

Age in Months	PRIVATE NURSERY SCHOOL			DAY NURSERY SCHOOL			TOTAL	
	Boys	Girls	All	Boys	Girls	All	Boys	Girls
24-29	7	7	14	2	2	4	9	9
30-35	7	3	10	2	3	5	9	6
36-41	13	3	16	2	3	5	15	6
42-47	7	5	12	4	8	12	11	13
48-53	4	0	4	2	4	6	6	4
54-71	0	0	0	7	10	17	7	10
Total	38	18	56	19	30	49	57	48

The intelligence quotients of the private nursery school group, available for 53 children, as measured by the Minnesota Pre-School Scale, Form A, ranged from 82 to 150, with an average

I.Q. of 121.5. I.Q. ratings were available for only 18 of the 47 children from the day nursery group. These I.Q.'s, obtained by the Minnesota Pre-School Scale, Form A, ranged from 79 to 129, with an average I.Q. of 105.8. Approximately one third of these children were from homes where a foreign language was spoken.

In procuring the subjects for the experiments practically all the available children in the two nursery groups were used. All the children attending the private nursery school from December 1932 through January 1934 were used as subjects, with the exception of only one child whose parent objected. At the day nursery all the children were taken as subjects who were registered at the school over a sufficiently long period of time to be included. (Those who attended the school for a short time only could not, of course, be used as subjects, since it was likely that they would be withdrawn before the experiments were completed. This actually occurred in 2 cases in spite of the precautions taken to avoid it.) There were also several very young children, who had just entered the day nursery, and since they had not yet had time to adjust to the nursery school environment it was believed that they should not be used for experimental purposes. Therefore, in spite of these few cases that were omitted from the study, it seems safe to assume that the children included as subjects were a representative sample of the children as a whole in the two nursery school groups. In other words, these children were probably neither more nor less fearful than the usual attendants of the two schools.

This does not, however, answer the question of whether the children attending these nursery schools were a representative sample of children in New York City as a whole. It has already been mentioned that the children from the Child Development Institute nursery school were a selected group in that their parents belonged to a relatively high socio-economic group. The children at the Manhattanville Day Nursery, on the other hand, were probably slightly below the average in socio-economic status. This would indicate that neither of the groups of children used as subjects could be considered as representative of the popula-

tion at large. However, since one group tended to be somewhat above the average and the other tended to be somewhat below, it may be that when all of the children are considered together they are a fairly representative group. It should be mentioned here, however, that the mean I.Q.'s of both groups were above 100. This indicates that they were selected with regard to intelligence, which implies other conditions of superior quality also.

It should be particularly noted here that a child was not taken as a subject if his condition in any way deviated from the normal. No child came to the experimental room until he had attended the nursery school at least several weeks, and usually more than a month, and had become well adjusted to that situation. No child was even taken as a subject the day after he returned to school from an absence caused by illness. No child was asked to participate in the experiments if he had just experienced any sort of emotional disturbance, temper tantrum, crying spell, or the like. Also no child was considered as a subject after he had been taken from the playground for a physical examination, psychological test, or anything of that nature, that might be fatiguing or upsetting in any way.

Although in most cases it was found that the first four experimental situations mentioned above could be given on the first day the child came to the experimental room, the next two situations on the following day, and the final two in one day about four weeks later, this schedule was not inflexible and was occasionally changed to fit the needs of the child. For instance, if a child of 24 months appeared to become fatigued at the conclusion of the first two of the four situations that normally were presented on the first day, the experiments were terminated for that day and the other two were given on the following day. In the case of some of the 5-year-old children it was possible to go through the situations so quickly that sometimes, if the children showed no signs of fatigue, the first six were presented in succession. This was done simply to save time. The order in which the situations were presented was, except in two or three cases, kept the same.*

* These exceptions occurred when, because of particularly cold weather, the

It will be noticed in the following tables that there were not the same number of children used as subjects in each situation. For the first six situations there were a minimum of 103 cases, and a maximum of 104. All 105 children were not included as subjects in all six situations since two children who started as subjects had to be omitted from part of the experiments because of withdrawal from the nursery school. The last two situations, the Large Dog and the Snake, have fewer children as subjects because it was only possible to obtain the use of the animals for a short period of time and therefore the number of children who could be included in these situations was naturally limited. Because of this limitation the children who were used for all eight situations were all from the private nursery school.

It was, as previously mentioned, extremely important that the children should not become conditioned against the experimental room or the experimenter. This was one reason why after each fear situation time was taken for play with toys which were found to be particularly attractive to the children. That this conditioning did not occur is evidenced by the fact that the children came willingly with the experimenter when she appeared on the playgrounds, and no signs of fear were observed in any child when approaching or entering the experimental room for the second time. In fact the children seemed to enjoy thoroughly the whole experience even though they may have been afraid to enter into one or more of the fear situations. For instance, one child of 26 months, who showed very evident fear in seven of the eight situations, always ran up to the experimenter whenever she appeared on the playground and asked if she could have a turn to "play games."

METHOD OF RECORDING

In order to record the behavior of the subjects in these experimental fear situations it was necessary to obtain some simple method which would not take too much time and which could

unheated gymnasium from which the dark passage led was felt to be too cold for use. Therefore Situation III, Dark Room, was omitted for a few days and presented at the end of the series instead of in its usual place.

be scored in a quantitative manner. The method of recording needed to be simple and quick because the experimenter had to give the directions and manage and direct the situation and the child as well as do the recording. The assistant had to aid in other ways, such as moving the High Boards, acting as the Strange Person, making the Loud Sound, and it was therefore impossible for her to record also, except when she observed the child when he was Being Left Alone, as described above. It was felt that to have a third person in the room to do the recording would make the situation too crowded and too complicated, although this had to occur for a short while when gathering data for reliability. Therefore, since the experimenter had to do the recording, a rapid and simple method was needed.

Five preliminary subjects were introduced to the first six situations and their behavior was recorded carefully in a continuous descriptive commentary. This descriptive method, of course, could not serve as the finally accepted means of recording, both because it took too much of the experimenter's time and attention and because the problem of calculating its reliability would be difficult. These thirty records, then, taken when five subjects were observed in each of six situations, were carefully analyzed. It soon became apparent that, under such constant experimental conditions, an inventory or check list of the items of behavior which occurred could be easily obtained.

Thus a check list of the items of behavior occurring in each experimental situation was compiled from the items appearing on the thirty descriptive records. These check lists were then tried out with two observers recording simultaneously and independently of each other. When these two sets of records were compared it was found that some of the items were ambiguously phrased and therefore interpreted differently by the two observers. These were rewritten. Several others were too subjective. These were rephrased if possible, and if not they were thrown out. Other items were seen to be repetitious and these were omitted or combined. A revised check list with these corrections was again tried out with two observers recording independently. This appeared to be much more satisfactory. A

slight revision in this list was made by changing the order of some of the items to simplify and speed up the work of recording. This revision was then accepted as final, and the recording blanks were made from this form. A total of ten preliminary subjects was observed in a total of sixty situations (six for each subject). There was a second observer who recorded the behavior of five of the subjects simultaneously with the experimenter, making an additional thirty records and bringing the total number of preliminary records up to ninety. The final record forms, devised from these ninety preliminary records, are reproduced below.

It was found that the records of these ten preliminary subjects contained substantially the same material, although recorded in a rougher and less objective way, as the final forms. When analyzed these records yielded the same behavior items as those on the record blanks. It seemed, then, that there was no necessity for omitting these cases from the study. Therefore these ten preliminary cases are included among the 105 subjects.

Situation I. Being Left Alone

Name:

Date:

Observer:

Continues to manipulate toy.

Ceases to manipulate toy.

Looks around room.

Turns in chair.

Gets off chair.

Moves around room.

Attempts to follow observer.

Attempts to leave room.

Vocalization: whines, cries, whispers, words.

Situation II. Falling Boards

Name:

Date:

Observer:

Response to fall of board

Starts, jumps.

Reaches toward observer.

Steps off as board falls.

Continues to end of board.
 Withdraws: walks, runs away from board.
 Vocalization: whines, cries, whispers, words.
Response to request to walk board again
 Performs without hesitation.
 Stops at edge of board before crossing.
 Reaches toward observer.
 Holds to observer.
 Urged and reassured by observer.
 Walks slowly and carefully.
 Finally performs alone.
 Walks first board but stops at edge of second one.
 Stands near or on first board but will not cross.
 Makes verbal protest against crossing.
 Withdraws from situation: walks, pulls, runs, from observer, from board, from room.
 Observer offers to accompany child.
 Finally performs holding to observer.
 Complete refusal to perform.
 Vocalization: whines, cries, whispers, words.

Situation III. Dark Room

Name:

Date:

Observer:

Performs without hesitation.
 Stops at door.
 Stands at door.
 Looks into room.
 Reaches toward observer.
 Urged and reassured by observer.
 Holds to observer.
 Enters slowly.
 Enters part way and comes out again.
 Enters but fails to get ball.
 Successfully performs alone.
 Will not approach doorway when urged; walks, pulls, runs away; makes verbal protest, excuse.
 Stands at doorway but will not enter when urged; makes verbal protest, excuse, etc.
 Observer offers to accompany child.
 Finally performs holding to observer.
 Complete withdrawal from situation; walks, pulls, runs away from observer, from room.

Complete refusal to perform.

Vocalization: whines, cries, whispers, words.

Situation IV. Strange Person

Name:

Date:

Observer:

Sees strange person but performs alone without hesitation.

Does not appear to see strange person but performs alone without hesitation.

Stops at doorway.

Stares at strange person.

Enters part way into room and stops.

When sees strange person draws back toward door.

Avoids strange person and approaches toy from other side.

Enters part way into room, but goes out again.

Reaches toward observer.

Urged and reassured by observer.

Holds to observer.

Finally takes toy alone.

Will not enter room even when urged.

Makes verbal protest against entering room.

Enters part way but will not take toy even when urged.

Enters part way and makes verbal protest against taking toy.

Observer offers to accompany child.

Finally performs holding to observer.

Complete refusal to perform.

Vocalization: whines, cries, whispers, words.

Situation V. High Boards

Name:

Observer:

Date:

Height:

Performs without hesitation.

Stands at beginning of board and reaches out towards observer.

Stands at beginning of board and holds to observer, to ladder, to board.

Reaches toward observer.

Holds to observer.

Urged and reassured by observer.

Makes verbal protest.

Walks across at normal pace.

Walks across slowly and carefully.

Walks across and reaches out toward observer while walking.

Walks across and looks at observer while walking.

Walks across and makes verbal protest while walking.

Crosses by other means than walking.

Crosses but does not attempt to take toy.

Crosses but makes unsuccessful attempt to take toy.

Sits, kneels, on board before crossing, when part way across, after crossing.

Finally performs alone.

Attempts to withdraw from situation; walks, pulls, runs away from observer, from apparatus.

Attempts to leave room.

Finally allows self to be lifted to board.

Will not walk across.

Walks part way across and stops and will not go further.

Observer offers to accompany child.

Finally performs holding to observer.

Complete refusal to perform.

Vocalization: whines, cries, whispers, words.

Situation VI. Loud Sound

Name:

Date:

Observer:

Response to sound

Does not appear startled.

Continues to manipulate toy.

Ceases to manipulate toy.

Starts, jumps.

Gets up from chair.

Vocalization: whines, cries, whispers, words.

Response to request to enter room

Performs without hesitation.

Stops at doorway before entering.

Enters slowly.

Urged and reassured by observer.

Finally performs alone.

Will not approach entrance; verbal protest; walks, pulls, runs away.

Approaches entrance but will not enter.

Reaches toward observer.

Holds to observer.

Withdraws from situation; walks, pulls, runs away from room.

Observer offers to accompany child.

Finally performs holding to observer.

Complete refusal to perform.

Vocalization: whines, cries, whispers, words.

Situation VII. Snake

Name:

Date:

Observer:

Response to sight of animal

Reaches toward observer.

Holds to observer.

Stands looking at animal.

Reaches toward animal in box.

Touches animal.

Withdraws from box.

Vocalization: whines, cries, whispers, words.

Response to request to reach into box

Performs without hesitation.

Reaches toward observer.

Holds to observer.

Reaches toward box and withdraws hand.

Reaches part way into box and withdraws hand.

Urged and reassured by observer.

Finally performs alone.

Withdraws from box.

Returns to box.

Stands at or near box but will not reach into it; makes verbal protest, excuse.

Withdraws from box and will not approach; makes verbal protest, excuse.

Observer offers to reach into box and touch animal.

Finally reaches into box after observer has done so.

Complete refusal to perform.

Vocalization: whines, cries, whispers, words.

Situation VIII. Large Dog

Name:

Observer:

Date:

Size:

Response to appearance of dog

Continues to manipulate toy.

Ceases to manipulate toy.

Remains seated in chair.

Turns in chair away from dog.

Reaches toward observer.

Holds to observer.

Reaches toward dog.

Calls to dog.

Gets up from chair and approaches dog.
Gets up from chair and withdraws from dog.
Vocalization: whines, cries, whispers, words.
Response to request to pat dog
Performs without hesitation.
Reaches toward observer.
Holds to observer.
Remains in chair and continues to manipulate toy.
Remains in chair without manipulating toy.
Urged and reassured by observer.
Turns in chair away from dog.
Calls to dog.
Approaches dog but hesitates before patting him.
Finally performs alone.
Makes verbal protest against patting dog.
Gets off chair and withdraws further from dog.
Will not approach dog when urged; makes verbal protest, excuse.
Approaches dog part way and then withdraws again.
Observer offers to accompany child.
Observer pats dog first.
Then child finally performs with observer.
Complete refusal to perform.
Vocalization: whines, cries, whispers, words.

The experimenter recorded the child's behavior on these forms by checking at the left side of each item. The order of occurrence of the various items of behavior was indicated by checking the items as they occurred as 1, 2, 3, etc. Any language that was spoken by the child during the fear situation was also written in on the form. This recording took place while the fear situation was being presented to the child.

It should be especially mentioned here that the records were not limited in what they could contain by the items appearing on the check list. Not only were all the words spoken by the child during the experiment written in on the blank, but any other responses which occurred before or after the experiment and which seemed to the experimenter to be significant or to throw light on the child's behavior, were also recorded. There was space at the foot of and on the reverse side of the blank to allow for this extra material. This type of material was written down by the experimenter at the end of the fear situation. Be-

cause of its subjective nature it was not regarded as reliable and was not used in scoring the results. However, it was felt that these more or less subjective impressions received by the experimenter, who knew the children, might yield some interesting data that could be utilized when considering individual cases, etc.

A sample record form completely filled out is reproduced below.

Situation III. Dark Room

Name: *John*

Date: *1/23/33*

Observer: *F.B.H.*

Performs without hesitation.

1 Stops at door.

Stands at door.

2 Looks into room.

Reaches toward observer.

5,4 Urged and reassured by observer.

Holds to observer.

Enters slowly.

Enters part way and comes out again.

Enters but fails to get ball.

Successfully performs alone.

Will not approach doorway when urged; walks, pulls, runs away; makes verbal protest, excuse.

6,3 Stands at doorway but will not enter when urged; *makes verbal protest, excuse, etc.*

7 Observer offers to accompany child.

8 Finally performs holding to observer.

Complete withdrawal from situation: walks, pulls, runs away from observer, from room.

Complete refusal to perform.

* Vocalization: whines, cries, whispers, *words*.

*₃ "*Dark in there.*"

*₇ "*You go with me.*"

*₆ "*No, you get it.*"

METHOD OF SCORING

The situations were presented in such a way that the outcome of the child's behavior in each situation, except Being Left Alone, represented one of four categories which were mutually exclusive. The four categories are defined and numbered below.

1. *Performs without hesitation.* There is no intervening behavior between the time when the child appears to understand the directions and his movements toward and final reaching of the goal. (Entering into the fear situation.)

2. *Finally performs alone.* There is some intervening behavior between the time when the child appears to understand the directions and his movements toward and final reaching of the goal (such as stopping, verbal protest, withdrawing, holding to observer, and so on), but he finally succeeds in performing without help from the observer.

3. *Finally performs when accompanied or aided by observer.* The child has signified his refusal to perform by withdrawing from the situation, verbal protest, and the like. The observer then offers either to accompany the child or to enter into the situation first. The child finally performs with the observer.

4. *Complete refusal to perform.* The child has signified his refusal to perform and his manner of refusal has been recorded. The observer offers to accompany the child or to enter into the situation first. The child still refuses to enter into the fear situation.

These four categories were printed on each record form, and, in every case, one of them was the last item checked on the record form.

The only exception to this was the situation Being Left Alone which, because of the nature of the situation, could not be treated in this way. The method of recording here was the same as in other situations in that the child's behavior was observed and checked on the record form, but the record blank did not contain the four categories. Therefore a different method of scoring was arranged for this situation, which will be discussed later.

It was necessary to obtain some quantitative means of scoring the child's behavior in the various fear situations. The four categories described above seemed to be clear cut and it was decided to use them as the basis of a quantitative score. If a child's behavior in a particular situation was such that category 1 was checked he was given a numerical score of 1 on that situ-

ation; if his behavior fell in category 2 in another situation he was given a score of 2 for that situation; he was assigned a score of 3 for a record checked in category 3, and a score of 4 for a record checked in category 4. Thus a composite score for each child was computed by adding together his scores on each of the various situations.

For the situation Being Left Alone, however, the scores could not be computed in this manner since the four categories of behavior did not occur as they did in the other situations. Therefore in this situation certain items which seemed to indicate the presence of fear were selected arbitrarily from the check list. If these items were checked the record was given a score of 4, and if these items were not checked the record was assigned a score of 1. The items which, if checked, gave a score of 4 are as follows: "Attempts to follow observer," and "Attempts to leave room," plus verbal protest or crying. This situation differed from the others, then, in that only two scores could be assigned, 1 or 4.

If a child faced eight situations the lowest score he could obtain was 8, indicating that category 1 was checked in all situations, and the highest score he could obtain was 32, indicating that his behavior was checked in category 4 on all situations. Since the reliability of the observer and the method of recording was high for these categories (this will be discussed later) this method of scoring seemed very satisfactory.

However, it was felt that category 2 covered quite a range of behavior and that some of the "intervening behavior between the time when the child appears to understand the directions and his movements toward the final reaching of the goal" might be more indicative of fear and apprehension than other behavior. Therefore a child's behavior that fell formerly into category 2 was separated into either 2a or 2b. This was determined by the items checked on the record form.

Category 2a complied with the definition of category 2 in general in that it consisted of "some intervening behavior between the time when the child appears to understand the directions and his movements toward and final reaching of the goal."

However, this intervening behavior was of a type that was felt to indicate a temporary hesitation or caution rather than apprehension or fear. A sample of some of the items in each category which were scored as 2a are as follows:

Situation II. Falling Boards

Stops at edge of board before crossing.
Reaches toward observer.

Situation III. Dark Room

Stops at door.
Looks into room.
Enters slowly.

Situation IV. Strange Person

Stares at strange person.
Enters part way into room and stops.

Situation V. High Boards

Stands at beginning of board and reaches toward observer.
Walks across slowly and carefully.

Situation VI. Loud Sound

Stops at doorway before entering.
Enters slowly.
Reaches toward observer.

Situation VII. Snake

Reaches toward observer.
Holds to observer.

Situation VIII. Large Dog

Remains in chair and continues to manipulate toy.
Turns in chair away from dog.

The items in each situation which, when checked, placed the child's behavior in category 2b are indicated below.

Situation II. Falling Boards

Walks first board, but stops at edge of second.
Stands on or near first board, but will not cross.
Makes verbal protest against crossing (at least 2).
Withdraws from situation; walks, pulls, runs from observer, from board, from room.

Situation III. Dark Room

- Enters part way and comes out again.
- Enters but fails to get ball.
- Will not approach doorway when urged; walks, pulls, runs away.
- Makes verbal protest, excuse (at least 2).
- Stands at doorway but will not enter when urged.

Situation IV. Strange Person

- When sees strange person draws back toward door.
- Avoids strange person and approaches toy from other side.
- Enters part way into room, but goes out again.
- Enters part way but will not take toy.
- Makes verbal protest against entering room, against taking toy (at least 2).

Situation V. High Boards

- Stands at beginning of board and holds to observer, to ladder, to board.
- Walks across and reaches out to observer while walking.
- Sits, kneels on board before crossing, when part way across, after crossing.
- Attempts to withdraw from situation; walks, pulls, runs from observer, from apparatus, from room.
- Makes verbal protest (at least 2).

Situation VI. Loud Sound

- Will not approach entrance; walks, pulls, runs away.
- Approaches entrance but will not enter.
- Withdraws from situation; walks, pulls, runs away.
- Makes verbal protest (at least 2).

Situation VII. Snake

- Reaches toward box and withdraws hand.
- Reaches part way into box and withdraws hand.
- Withdraws from box.
- Stands at or near box but will not reach into it.
- Makes verbal protest, excuse (at least 2).

Situation VIII. Large Dog

- Approaches dog but hesitates before patting him.
- Gets off chair and withdraws further from dog.
- Will not approach when urged.
- Approaches part way and then withdraws.
- Makes verbal protest, excuse (at least 2).

If any one of these items was checked in any situation the record was then scored as 2b. In Situation I, Being Left Alone, it was decided that if the child made a verbal protest against the observer's leaving him alone without, however, attempting to leave the room or to follow the observer, he would receive a score comparable to that of category 2b.

Category 2b, then, as contrasted with 2a, was considered as indicating some degree of fear or apprehension.

The method of scoring based on this new division of category 2a and 2b was as follows: Category 1 was assigned a value of 0, category 2a was assigned a value of 1, category 2b a value of 2, category 3 a value of 3, and category 4 a value of 4. A child, therefore, who showed what was considered to be the greatest degree of fear in any one situation, complete refusal to enter the fear situation even when accompanied or aided by the experimenter, received a score of 4 for that situation. On the other hand, a child who showed absolutely no fear and entered the situation without any observable sign of hesitation received a score of 0 for that situation. Therefore in eight situations the lowest score any child could have would be 0 and the highest would be 32.

The fifty-six children who were exposed to eight situations were given scores computed by both these methods, the one just described and the one first devised. The two sets of scores were correlated and the correlation found to be $.99 \pm .01$. The 103 children who were exposed to six fear situations were also scored by both of these methods. The correlation between the two scores in this group was $.98 \pm .006$. This indicates that as far as the relative fearfulness of the various subjects in these situations is concerned, the two methods of scoring give almost identical results. This is to be expected since the difference between the two is slight, the only difference being the division of category 2 into 2a and 2b, and the allotting of scores for the two separate parts in place of the original one.

The second and accepted method of scoring was felt to be preferable, as has already been mentioned, because it allowed for slightly finer distinctions in behavior to be made. It might

be expected that in drawing finer distinctions the reliability of the observer would be lessened. If this were so, however, it should affect the relative position of the subjects' scores. The very high correlations just cited between these two sets of scores, .99 and .98 respectively, indicate that this is not the case.

The reliability of this method of scoring depends upon the reliability of the observer and the reliability of the method of recording, including both that of the four categories and of the various items of behavior. This question of reliability will be discussed in the following chapter.

CHAPTER IV

THE RELIABILITY OF THE FINDINGS

THE reliability of the findings of this experimental study as a whole depends upon three separate types of reliability: (1) the reliability of the observer and the method of recording, including reliability of the categories and the items of behavior; (2) the reliability of the method of scoring; (3) the reliability of the data, that is, can it be assumed that a child's behavior in a given experimental situation gives a true picture of what he is likely to do when exposed to the same situation at another time? In other words, is this a reliable sample of his behavior when confronted with such fear situations?

RELIABILITY OF THE OBSERVER AND THE METHOD OF RECORDING

Reliability of the Categories

In order to test the reliability of the observer and the method of recording, a second observer was introduced into the experimental situations, who recorded the child's behavior independently but simultaneously with the experimenter. A minimum of twenty such simultaneous records of the behavior of as many different children was taken in each situation by each observer, recording independently. There were two observers who alternated with each other in recording with the experimenter, making two pairs of observers in each of six of the eight fear situations. In the remaining two situations there was only one pair of observers.

First these simultaneous records were compared to discover the extent of agreement between observers as to whether the child's final behavior in each fear situation fell into category 1, 2, 3, or 4, as checked on the record blank. A total of 203 simultaneous records were taken. In 185, or 91 per cent, of these records the observers were in perfect agreement as to the cate-

TABLE II

Frequency and Percentage of Agreements between Two Pairs of Observers as to the Four Categories of Behavior in Eight Experimental Fear Situations, and the Total Frequency and the Percentage of Agreement for Each Situation and for All Situations Combined

Situation	Observers	Number of Records	Number of Agreements	Per Cent of Agreements
I. Being Left Alone	A and B	11	10	91
	A and C	13	13	100
	Total	24	23	96
II. Falling Boards	A and B	11	10	91
	A and C	18	15	83
	Total	29	25	86
III. Dark Room	A and B	11	9	82
	A and C	12	12	100
	Total	23	21	91
IV. Strange Person	A and B	11	11	100
	A and C	13	10	77
	Total	24	21	87
V. High Boards	A and B	25	23	92
	A and C	17	16	94
	Total	42	39	93
VI. Loud Sound	A and B	17	16	94
	A and C	4	4	100
	Total	21	20	95
VII. Snake	A and C	20	18	90
VIII. Large Dog	A and C	20	18	90
All Situations	A and B	86	79	92
	A and C	117	106	91
	Total	203	185	91

gory checked. Of the eighteen cases of disagreement, seventeen were disagreements between categories 1 and 2, and only one disagreement was between categories 3 and 4. Table II gives the frequency and percentage of agreements as to categories for each situation, and for each pair of observers.

The behavior included in categories 3 and 4, as contrasted with that of categories 1 and 2, was regarded as a very clear indication of the presence of fear. Therefore in tabulating the results of the experiments there will be tables to show to what extent categories 3 and 4 appeared in each situation. It is of

importance to note here that in 203 simultaneous records the two pairs of observers agree 100 per cent of the time as to the placing of behavior in categories 1 or 2 as distinguished from categories 3 or 4. There were no cases where one observer on a simultaneous record checked category 1 or 2 while the other observer checked category 3 or 4.

Reliability of the Items of Behavior

The 203 simultaneous records were compared a second time to discover the extent of agreement between the two observers

TABLE III

Frequency and Percentage of Agreements between Two Pairs of Observers, Obtained by Means of an Item by Item Comparison as to the Various Items of Behavior Recorded in Eight Experimental Fear Situations, and the Total Frequency and Percentage of Agreement for Each Situation and for All Situations Combined

Situation	Observers	Number of Items Checked	Number of Agreements	Per Cent of Agreements
I. Being Left Alone	A and B	65	56	86
	A and C	96	90	94
	Total	161	146	91
II. Falling Boards	A and B	45	38	84
	A and C	60	50	83
	Total	105	88	84
III. Dark Room	A and B	63	54	86
	A and C	84	74	88
	Total	147	128	87
IV. Strange Person	A and B	32	26	81
	A and C	44	34	77
	Total	76	60	79
V. High Boards	A and B	134	112	84
	A and C	67	56	84
	Total	201	168	84
VI. Loud Sound	A and B	60	46	77
	A and C	22	18	82
	Total	82	64	78
VII. Snake	A and C	119	96	81
VIII. Large Dog	A and C	119	100	84
All Situations	A and B	399	332	83
	A and C	611	518	85
	Total	1010	850	84

as to the specific items of behavior recorded on the record blank for each situation. Where several items appeared to describe one piece of behavior these items were combined. For instance, on the record blank for the Dark Room the three items, "Stops at door," "Stands at door," and "Looks into room," were combined for this purpose and given but one tally. There were also several items which were found in preliminary work to be ambiguous and these were omitted from then on and never checked on the recording blanks. These items were also omitted when comparing the simultaneous records. In making this item by item comparison all the behavior items checked by the two observers were given a tally of one (except in the case of the combined items mentioned above). If observer A had six items checked on her record and observer B five items checked on her record, the total items checked were counted as eleven. If A had four of these items checked on her blank and B had the same four items checked on her blank, the number of agreements were counted as eight and the percentage of agreement as 73. In this way the percentage of agreement between observers as to occurrence of specific items of behavior in the various fear situations was computed. The percentage of agreement in recording specific items in the various fear situations ranged from 78 per cent to 91 per cent and the percentage of agreement on all 203 simultaneous records was 84 per cent. Table III shows in more detail the number and percentage of agreement for each pair of observers in each fear situation.

RELIABILITY OF THE METHOD OF SCORING

The reliability of the method of scoring depends upon the reliability of the categories and the specific items of behavior. The scores assigned to categories 1, 3, and 4, in the manner described on page 200, are just as reliable as the categories themselves. It has already been stated that the percentage of agreement between observers in recording behavior in these categories was 91 per cent. The scores assigned to categories 1, 3, and 4 correspond relatively to the categories (that is, category 1 has a score of 0, category 3 a score of 3, and category 4 a score

of 4); therefore if the categories can be considered reliable the scores also are reliable. The reliability of the scores assigned to behavior falling into category 2, when it is divided into 2a and 2b, depends entirely upon the reliability of the items of behavior, since it is upon these items of behavior that the divisions of 2a and 2b were made, as has been previously stated. The percentage of agreement between observers in recording these behavior items was 84 per cent. This is not so high as the percentage of agreement obtained in the categories. However, when scores assigned on the basis of the categories 1, 2, 3, and 4 were correlated with the scores assigned when category 2 was divided into 2a and 2b, the correlation between these two sets of scores on eight situations was $.99 \pm .01$. This would indicate that the method of scoring used, which divides category 2 into 2a and 2b, is almost identical with the scoring based on the categories alone, and is equally reliable.

It should be particularly mentioned here that these experiments and the method of recording were designed in such a way that the decision as to whether a child showed fear in a certain situation did not necessarily depend entirely upon his movements, facial expression, and the like. The difficulties involved in judging emotion by facial expression and bodily movements have already been discussed elsewhere. In these experimental fear situations, the child was not merely subjected to a fear stimulus and his reactions recorded, but he was requested to enter into the situation. Therefore his acceptance, his refusal and later acceptance, his refusal to enter into the situation except when accompanied by the experimenter, or his complete refusal—in other words, the four categories already described—represented the picture of behavior obtained which was tested and which appeared to be reliable.

RELIABILITY OF THE DATA

The question of whether the behavior of a child observed in any of these experimental fear situations is a true sample of his behavior is an important one. There are possibly three complicating factors which might influence the reliability of the data

in regard to this question: (1) The possibility that the child, after his first experiment, might become conditioned against the experimenter or the experimental room. This would, of course, invalidate the results of the following experiments. (2) The possibility that a child's refusal to enter into the fear situation might not be a manifestation of fear, but simply resistance to the experimenter's directions and request. (3) The possibility that a child's behavior in any specific situation, even though it was not influenced by conditioning or resistance, might be a chance response, so to speak, and that a repetition of the same experiment might call out an entirely different response.

The evidence that the first of these possibly complicating factors, that of conditioning, did not occur to any observable extent is simply based on the experimenter's observations and her knowledge of the children. Of course, precautions were taken to guard against its occurrence. When the child was first introduced to the experimental room the experimenter joined with him in play with an interesting toy. This helped to insure that his first contact with the experimental room would be a pleasant one. He had, as has already been described, become acquainted with the experimenter previously on the playground. At the end of the first experiment, *Being Left Alone*, time was taken for more play before the second situation was presented, and similarly in the case of every situation presented thereafter. If the child showed any signs of disturbance after an experiment the following one was delayed until he appeared to be at ease and happy again. At the end of the series of four situations presented on the first day the experimenter joined the child in play with an interesting toy, so that his last impression of the experimental room and the experimenter would be a pleasant one.

If any negative conditioning to the procedure as a whole had occurred on this first day, evidence of it should appear when the child was approached by the experimenter the following day and invited to return for the second series of experiments. However, most of the children responded readily and with interest to the experimenter's invitation to "play games" again. Occasionally an initial refusal did occur. As far as the experimenter

could determine these few refusals were due to two causes which had no relation to any fear experienced on the previous day. In one type of refusal the child did not wish to leave a particularly interesting play he was engaged in (the experimenter tried to avoid interrupting such play but sometimes, when a particular child was especially needed, this interruption was necessary). When this occurred the experimenter waited until the play was finished, if this was possible, or else she or the nursery school teacher explained to the child that he would not be away long and could return to his play in a few minutes. These two approaches always succeeded eventually, and the child willingly accompanied the experimenter. The second type of refusal was the behavior which seemed typical of two children. They always initially refused to leave a familiar environment and enter into any new one. This occurred when these children were requested to leave the playground for other research studies, physical examinations, and the like. In these cases the nursery school teacher accompanied the child to the experimental room and remained there until he became adjusted to the new situation. These refusals were evidently not caused by conditioning that can be traced to the procedures of the present study since they first occurred before the children had ever been in the experimental room; furthermore, one of the children, when she became used to the room, showed very little fear in the experimental situations themselves. The other child, as soon as he had become adjusted to the new surroundings, would smile whenever he saw the experimenter on the playground and ask to accompany her to "play games." (The experimenter's appearance on the playground usually resulted in many of the children asking if they could have a turn to "play games.") In fact, almost all the children seemed to enjoy thoroughly their participation in the fear experiments, even though they may have shown fear in a number of them.

If negative conditioning had occurred at the first experiment the experimenter should have observed signs of fear when the child was about to enter the experimental room for the second time or saw for the second time a piece of the apparatus. How-

ever, no such signs of fear were observed. It cannot, of course, be stated positively that negative conditioning never occurred. It is true, however, that all possible precautions were taken to avoid it, and that no observable signs of its presence were apparent.

It may also be possible that some positive conditioning occurred. That is, in order to insure against resistance and to achieve the greatest possible coöperation from the child, it was necessary to attempt to make the experience, as a whole, interesting to him. For this reason time was allowed between presentation of the various situations for play with toys, and so on. Because of this it is possible that less fear was observed in these experimental fear situations than might have occurred if these precautions had not been taken.

The second complicating factor which might have influenced the reliability of the data has been previously mentioned, the possibility that the refusals to enter the fear situations, which were interpreted as signs of fear, were not fear but resistance to the experimenter's request. There are a number of points which suggest that the refusals were not caused by resistance. If a child desired to resist the experimenter's request he might be expected to refuse to enter every situation presented. Of course, this did not occur. When, for instance, three situations were presented on one day the usual occurrence was for a child to refuse one or two and accept the other. Only on the rare occasions when the whole picture indicated a very fearful child were all three situations refused. On the first day that the child was introduced to the experimental situations, and resistance might be expected to appear on this initial presentation, there were presented four situations, in three of which the child had a chance to refuse (Situation I, Being Left Alone, differed from the others in regard to this point, as has been previously mentioned). Of the 103 children who were exposed to these three initial situations, only four refused all three of them.

If a child's refusal to enter the dark room or walk the four-foot board, for instance, was due to resistance to the experimenter rather than to fear, then we might expect that the

experimenter's offer to accompany or aid the child, "Take my hand and walk across," and so on, would call out even more vehement refusals. This, however, was not the case. In the 200 cases of refusal to enter the fear situations, the great majority, 124, were in category 3. That is, they refused to enter the situations alone and unaided, but they were finally willing to do so when accompanied by the experimenter. In a comparatively small number of cases, 76, the children continued to refuse after the experimenter had made her offer.

Again, if the refusals to enter the fear situations were caused by resistance one would expect the greatest number of refusals to occur at the age when the greatest amount of resistance is to be expected. Caille³⁹ found, in her study of the resistant behavior of preschool children, that the peak of resistance in all phases of her study, with the exception of language, occurred within two months of the third birthday. Caille also states that the three-year-old children had approximately twice as many cases of recorded resistance as the two-year-olds. The greatest number of refusals to enter the fear situations, however, were not found to occur at the same age at which the peak of resistance should be expected. The three-year-old children in this study, instead of showing more refusals than those of two years, which would be the case if refusal meant only resistance, had a total of fewer refusals than the children of two years.

It should again be emphasized here that the experimenter did not begin the experiments until the child appeared to be ready to coöperate. She presented the child with a toy and gave him directions how to manipulate it. She waited until the child had carried out these directions, thus indicating his willingness to accede to her requests, before commencing the experiments. In view of the above considerations, it would seem that a child's refusal to enter into one or more of the fear situations was caused by something other than resistance.

The third factor which might influence the reliability of the data is the consistency of the responses of the subjects in the

³⁹ Caille, R. K. *Resistant Behavior of Preschool Children*. Child Development Monographs, No. 11, 1933.

various fear situations. If, for instance, a child at one time enters the dark room without hesitation, can it be assumed that this means that he is actually unafraid and that he will do so again?

The usual method of determining the consistency with which the measuring instrument measures that which it purports to measure is to present it a second time and observe how closely the two measurements agree. The very nature of the experimental fear situations makes this procedure very difficult. Once a child has experienced one of these situations it becomes changed if it is repeated, and is really not an exact repetition of the first situation. For instance, at the first presentation a child is afraid of the dark room and will not enter alone, but does so finally, holding to the experimenter's hand. Then if he is asked to enter the room again at a later date the situation is not exactly similar to the first one. It is very likely that when he entered the dark room the first time with the experimenter he learned something about the situation which would influence his responses to a second presentation. If a child has once experienced the falling boards experiment he will know what to expect when he is asked to walk over them a second time, and this would undoubtedly influence his behavior. If, on the other hand, the repetition of the situation is delayed over a sufficiently long period of time to decrease the likelihood of the child's remembering very much of the previous experience, then the very fact that he is six or seven months older will affect his responses. For the results of this study, which will be presented in a later chapter, as well as others previously mentioned, indicate a relationship between fear and age. Therefore, if a different set of responses should be discovered on the second presentation of an experimental situation, it would be difficult to account for the difference. It might be caused by what the child learned the first time, or it might be affected by his increase in age, quite apart from the factor of the reliability of the measuring instrument that was first applied.

However, in spite of the difficulties involved in interpreting the results, seven experimental fear situations were repeated with sixteen subjects after intervals of time ranging from six to eight

months. It was believed that the results of these retests might contribute some additional material that would be significant even though they might not aid in determining the reliability of the data.

The seven situations repeated were as follows: Being Left Alone; Falling Boards; Dark Room; Strange Person; High Boards; Loud Sound; Snake. Five of these situations were presented again to sixteen subjects and the remaining two were presented to fifteen subjects. All these subjects attended the private nursery school. The time intervals between the experiments were not less than six months nor more than eight months. During a portion of this time the children were not attending the school because of the summer vacation. The subjects were assigned scores for each experimental situation, both for the initial and for the repeated presentation. These scores were computed according to the method described on page 204. They were also given a composite score for all seven situations, and this was computed for both presentations.

A rank correlation was computed between the sets of composite scores derived from the first and the second presentation of these seven situations. The coefficient was .55. Although the number of cases is small this correlation still indicates a definite positive relationship between these two sets of scores. This means that the behavior of the subjects in these various fear situations, taken as a whole, showed a significant amount of similarity when repeated after an interval of time. In order to discover how consistent were the responses exhibited in each separate fear situation it was necessary to compare the two sets of scores obtained in each situation. Since the possible range of scores obtainable in any one situation was only 0 to 4, it was impossible to compute even a rank correlation. Therefore a coefficient of contingency was derived for the two sets of scores in each separate fear situation. This appeared to be the best method of determining, in this case, any degree of relationship which might exist. Table IV gives the coefficients thus derived for each experimental fear situation.

These coefficients range from .45 to .78, the highest coeffi-

TABLE IV

Coefficients of Contingency between the Fear Scores
Obtained on the First and Second Presentation of Seven
Experimental Fear Situations

Situation	Number of Children	Coefficient of Contingency
I. Being Left Alone	16	.62
II. Falling Boards	16	.70
III. Dark Room	15	.69
IV. Strange Person	16	.45
V. High Boards	16	.78
VI. Loud Sound	16	.69
VII. Snake	15	.66

cient being that obtained for the High Boards, and the lowest that obtained for the Strange Person. Although none of the coefficients are high enough to indicate very great similarity in the behavior evidenced during the two times the children were exposed to the various fear situations, yet none of them are low enough to suggest that the behavior of a child the first time he experienced a particular fear situation had little relationship to the behavior he evidenced the second time he was exposed to the same situation. The figures, on the other hand, do indicate that there exists a definite positive relationship between the behavior the children exhibited at two different times, as measured by this quantitative method of scoring behavior.

It has already been mentioned that any difference in behavior exhibited by the same child in these two presentations of the fear situations would be difficult to interpret. When we consider the effect that the increase in age might be expected to have on the child's behavior, and the fact that the second experience with the fear situation could not be considered as similar to the first, then it is of some significance that these coefficients of contingency indicate even as high a degree of relationship as they do.

CHAPTER V

THE DISTRIBUTION OF CHILDREN'S FEARS

THE DEFINITION OF FEAR USED IN THIS STUDY

IN DEALING with the data obtained from the foregoing fear experiments there immediately arises a question as to which responses of the subjects should be considered as indicating fear. Fear in subsequent discussion will be defined, unless otherwise indicated, as that behavior which was included in categories 3 and 4 described in a previous chapter. In other words, by fear is meant (4) complete refusal to enter into the experimental fear situation, or (3) refusal to enter the situation until the experimenter had offered either to accompany the child or to enter the situation first herself. (Alone in Room is the only exception. Fear, in this case, is defined as category 4, "Attempts to leave room," or "Attempts to follow observer," plus verbal protest or crying.)

RELATIVE EFFECTIVENESS OF THE VARIOUS FEAR SITUATIONS IN AROUSING A FEAR RESPONSE

It is noteworthy that at least some cases of fear occurred in response to every experimental situation. This holds true even though every precaution was taken to prevent a negative response to the experimenter and to the experiment as a whole and, as mentioned at an earlier point, there was every evidence of full coöperation on the part of the child.

Table V presents the total number and the percentage of children who showed fear in response to each fear situation. These figures indicate the relative potency of the various experimental situations in eliciting a fear response. The Large Dog was the situation most effective as a fear stimulus, causing fear in 50 per cent of the children, and the Snake was the next most effective.

tive, arousing fear in 44.2 per cent of the subjects. The Dark Room elicited the next largest number of fear responses, or 41.3 per cent of the children. Next in the order of their effectiveness were the High Boards* with 27.2 per cent, the Strange Person with 20.2 per cent, and the Loud Sound with 17.5 per cent. The Falling Boards, and Being Left Alone were least effective, both causing fear in only 11.5 per cent of the children.

TABLE V

Number and Percentage of All Children Who Showed Fear in Response to the Various Experimental Fear Situations

Situation	Number of Children Studied	Number Showing Fear	Percentage Showing Fear
I. Being Left Alone	104	12	11.5
II. Falling Boards	104	12	11.5
III. Dark Room	104	43	41.3
IV. Strange Person	104	21	20.2
V. High Boards	103	28	27.2
VI. Loud Sound	103	18	17.5
VII. Snake	86	38	44.2
VIII. Large Dog	56	28	50.0

Two other experimental fear situations were attempted at the beginning of the study. One included the use of a horned toad, which was presented in the same manner as the snake. The other was concerned with a small, lively dog, a terrier, which was presented in the same manner as the large dog. Both of these experiments were discontinued, the horned toad because it appeared to cause no reaction, and the small dog because it died. The number of children exposed to these two situations was too small to allow a quantitative tabulation of the results. However, it is of interest that the horned toad, which remained perfectly still in its box, caused no fear reactions, even though it was a strange object. The small dog, on the other hand, which was more lively than the large dog and jumped and frisked at the end of its leash, caused signs of fear in a relatively greater number of the children who were exposed to it than did the large dog.

*In order to make the scoring of responses in this situation identical for each child it is based in every case on the child's performance on the board when placed 4 feet from the ground.

These figures, when compared with figures from parents' 21-day observation records of their children's fears,⁴⁰ show some similarities and some differences. The data in the afore-mentioned study which serve best for comparative purposes are those which are presented in Table VIII. This table gives the number and per cent of those children showing one or more fears in the various fear situations, when only one tally was allowed per child for one or more fears of the same class. The items from this table which are comparable to the experimental fear situations are Noises, Animals, Strange Persons, Falling, Dark, and Being Left Alone. This table, however, includes two yearly age groups, 0- months and 12-23 months, which do not correspond to the age of the children used in the experimental fear situations. Therefore, in order to make a comparison between these two sets of figures, new totals were computed for the parent records, omitting these first two age groups. In order to make the figures comparable it was also necessary to combine the experimental fear situations II and V, Falling Boards and High Boards, to obtain one set of figures corresponding to the item of Falling on the parents' 21-day records, and to combine experimental fear situations VII and VIII, the Snake and the Large Dog, to correspond to the heading "Animals" in the other

TABLE VI

Number and Percentage of All Children Who Showed Fear in Response to the Various Experimental Fear Situations When Situations II and V, Falling Boards and High Boards, Were Combined, and Situations VII and VIII, the Snake and the Large Dog, Were Combined. In Combining These Situations Only One Tally Was Allowed per Child for One or More Fears of the Same Class

Situation	Number of Children Studied	Number Showing Fear	Percentage Showing Fear
I. Being Left Alone	104	12	11.5
II and V. Falling and High Boards	104	33	31.7
III. Dark Room	104	43	41.3
IV. Strange Person	104	21	20.2
VI. Loud Sound	103	18	17.5
VII and VIII. Animals	86	53	61.6

⁴⁰ Jersild and Holmes, *op. cit.*

TABLE VII

Comparison between Parents' Records and Experimental Fear Situations with
 Regard to Relative Frequency of Children Showing Fear in Various Fear
 Situations

21-DAY RECORDS SUBMITTED BY ADULTS WHO OBSERVED AND RECORDED CHILDREN'S FEARS		EXPERIMENTAL FEAR SITUATIONS	
Situation	Percentage Showing Fear	Situation	Percentage Showing Fear
1. Animals	43.6	1. Animals	61.6
2. Noises	42.7	2. Dark	41.3
3. Strange Persons	30.0	3. Falling	31.7
4. Falling	21.8	4. Strange Persons	20.2
5. Dark	11.8	5. Noise	17.5
6. Being Left Alone	10.0	6. Being Left Alone	11.5

study. Table VI gives the number and percentage of children showing fear in the various experimental fear situations when these two pairs of fear situations are combined.

Table VII gives the comparative figures from both the parents' 21-day records and the experimental fear situations. The situations are listed in the order of their effectiveness in causing fear, as determined by percentage of all children showing fear in each situation.

The table shows that, with the exception of Noises and the Dark, situations in both studies are placed in fairly similar positions in the lists, with regard to their effectiveness in producing fear. Animals are placed first on both lists. Strange Persons and Falling are, in both cases, in the center of the list, although their positions are reversed, and Being Left Alone is placed last on both lists as the least effective in causing fear.

Noise was mentioned very frequently as a fear stimulus in the parents' records, causing fear in 42.7 per cent of the children during the twenty-one days that they were observed. It was found, however, to be one of the least effective of the experimental fear situations, producing fear in only 17.5 per cent of the cases. The particular noise used in the fear experiments was very loud, was unexpected, and came from an unseen source, but these elements, although frequently mentioned in reports of

fears of noise as being effective in producing fear, were frequently ineffective in this case. This would tend to indicate that, although sound may be a potent stimulus for evoking fear responses in young children, no one sound, even though loud, sudden, and from an unseen source will produce fear in a large number of children. A great variety of different noises are mentioned by the parents in their reports of fear, which would indicate that children differ in regard to the type of sound which can cause fear and that a particular noise which may terrify one child will be ignored by another.

The results as to fear of the dark also differ quite widely in the two studies. The parents report the dark as causing fear in only 11.8 per cent of the children. In the fear experiments, however, the dark was one of the most effective situations in producing fear. It might be, in this case, that the element of opportunity affected the situation in regard to the parents' reports. Although the opportunities for coming in contact with animals, loud sounds, strange persons, and the like would be quite frequent, the opportunity for the parents to observe their children when entering a room that was both dark and unfamiliar might not occur frequently.* This might then account for the small number of children reported by their parents as fearing the dark.

DISTRIBUTION OF GROUP WITH REGARD TO NUMBER OF SITUATIONS IN WHICH FEAR WAS SHOWN

Of the 103 children who were confronted with the first six situations, Being Left Alone, Falling Board, Dark Room, Strange Person, High Boards, and Loud Sound, 35 showed no fear when fear was determined according to the definition on page 218. The range of the number of fears shown per child by these 103 children in response to the six situations was 0 to 5. The average number of fears shown was 1.3 fears per child.

* In the data obtained from parents who observed and recorded their children's fears for 21 days, it was found that strange objects and situations accounted for a relatively large number of fears. It seldom appeared, however, that the children were exposed to an environment that combined the elements of being alone with a dark and unfamiliar room.

Of the 55 children who encountered eight fear situations, including the six situations named above plus the Snake and the Large Dog, only two showed no fear. The range of fears per child in these eight experimental situations was 0 to 7, and the average number of fears per child was found to be 2.7.

This wide range in number of situations feared indicates that quite large individual differences exist in the matter of fear behavior. For instance, of two children aged 24 months (the relationship between age and fear will be discussed in the following section) one, Sally, showed fear of seven out of the eight situations while the other child, Harry, entered all eight situations without displaying any definite signs of fear.

DISTRIBUTION OF GROUP WITH REGARD TO FEAR SCORES

The 103 children who acted as subjects in the first six situations were given scores on each experimental situation according to the method of scoring described in the previous chapter. Since the lowest score that might be assigned to any one situation was 0 and the maximum score was 4, the possible range of total scores for six situations was 0 to 24. The actual range of the scores of these 103 children was 0 to 19. The average score for this group on six situations was $6.2 \pm .42$, and the S.D. of the group was 4.3.

There were, for reasons already explained, only fifty-five children who experienced all eight fear situations. The possible range of scores for this group would be 0 to 32. The actual range of scores of these fifty-five children was 3 to 27. The average score was $11.3 \pm .73$ with an S.D. of 5.4.

Here also the wide range in fear scores indicates large individual differences. Of two boys aged 48 and 49 months, Malcolm had a fear score of 5 and Hugh a fear score of 18.

CHAPTER VI

AGE DIFFERENCES OCCURRING IN THE EXPERIMENTAL FEAR SITUATIONS

IN ORDER to discover whether the results of this study indicated any age differences in the responses to the various fear situations, the subjects were grouped in four yearly age levels. The ages for the first six fear situations were computed from the day of the first experiment, as these six situations all took place within two or three days. The ages for the last two situations, Snake and Dog, were computed at the time those situations occurred, as they were presented a month later. It was decided that yearly age groups were most satisfactory for this purpose since, if smaller age groups were used, such as six months, the number of cases in each group would be too small. The results were then tabulated so as to show the number and percentage of children at each yearly level who showed fear (when fear was defined according to the definition on page 218) in response to the various fear situations. These figures are presented in Table VIII. Accordingly, when, under the age group 24-35 months and opposite Situation I, Being Left Alone, the number 33 is placed under the heading, "Number of Children Studied," and the number 4 is placed under the heading, "Number Showing Fear," this means that 33 children aged 24-35 months were exposed to the situation Being Left Alone and that 4 of them or 12.1 per cent showed fear as defined on page 218.

In four of these experimental fear situations there is a definite and consistent decrease with age in the frequency of fear, namely, Falling Boards, Strange Person, High Boards, and Loud Sound. For instance, in Situation IV, Strange Person, 31.3 per cent of the children aged 24-35 months showed fear, 22.2 per cent of the children aged 36-47 months showed fear, and only

TABLE VIII
Number and Percentage of Children at Yearly Age Levels Who Showed Fear
in Response to the Various Experimental Fear Situations

Situation	AGE IN MONTHS						AGE IN MONTHS					
	24-35		36-47		48-59		24-35		36-47		48-59	
	No. of Child- Studied	No. of Show- ing Fear	No. of Child- Studied	No. of Show- ing Fear	No. of Child- Studied	No. of Show- ing Fear	Percent- age Showing Fear	Percent- age Showing Fear	Percent- age Showing Fear	Percent- age Showing Fear	Percent- age Showing Fear	Percent- age Showing Fear
I. Being Left Alone.	33	4	45	7	14	1	12.1	15.6	7.0	0	0	0
II. Falling Boards ..	33	8	45	4	14	0	24.2	8.9	0	0	0	0
III. Dark Room	32	15	45	23	14	5	46.9	51.1	35.7	0	0	0
IV. Strange Person ..	32	10	45	10	14	1	31.3	22.2	7.1	0	0	0
V. High Boards	31	11	45	16	14	1	35.5	35.6	7.1	0	0	0
VI. Loud Sound	31	7	45	9	14	2	22.6	20.0	14.3	0	0	0
VII. Snake	23	8	36	20	14	6	34.8	55.6	42.9	30.8	—	—
VIII. Large Dog	21	13	28	12	7	3	61.9	42.9	42.9	—	—	—
Total	236	76	334	101	105	19	32.0	30.2	18.1	4.5	—	—

TABLE IX
Number and Percentage of Children at Half-Yearly Age Levels Who Showed Fear
in Response to the Various Experimental Fear Situations

Situation	AGE IN MONTHS						AGE IN MONTHS					
	24-29		30-35		36-41		24-29		30-35		42-47	
	No. of Child- Studied	No. of Show- ing Fear	No. of Child- Studied	No. of Show- ing Fear	No. of Child- Studied	No. of Show- ing Fear	Per Cent Show- ing Fear	Per Cent Show- ing Fear	Per Cent Show- ing Fear	Per Cent Show- ing Fear	Per Cent Show- ing Fear	Per Cent Show- ing Fear
I. Being Left Alone .	18	3	15	1	21	3	16.6	6.7	14.3	16.7	10.0	10.0
II. Falling Boards ...	18	6	15	2	21	2	33.3	13.3	9.5	8.3	0	0
III. Dark Room	17	7	15	8	21	10	41.2	53.3	47.6	54.2	50.0	50.0
IV. Strange Person ...	17	8	15	2	21	4	47.1	13.3	19.0	25.0	10.0	10.0
V. High Board	17	6	14	5	21	7	35.3	35.7	33.3	37.5	10.0	10.0
VI. Loud Sound	17	5	14	2	21	5	29.4	14.3	23.8	16.7	10.0	10.0
VII. Snake	9	3	14	5	13	8	33.3	35.7	61.5	52.2	62.5	62.5
VIII. Large Dog	9	4	12	9	10	4	44.4	75.0	40.0	44.4	33.3	33.3
Total	122	42	114	34	149	43	34.4	29.8	28.9	31.4	21.6	21.6

7.1 per cent in the children aged 48-59 months were fearful, while in the oldest group aged 60-71 none of the children were afraid of the Strange Person. A similar decrease in fear with age can be seen in the remaining three fear situations just mentioned. The percentages indicating the total relative frequency of children who showed fear when all fear situations were combined also shows a definite and consistent decrease with age. Fear was shown in 32.0 per cent of all cases at the 24-35 month level, in 30.2 per cent of the cases at 36-47 months, in 18.1 per cent of the cases at 48-59 months, and in 4.5 per cent of the cases at 60-71 months.

Situation I, Being Left Alone, shows a slight rise in the percentage of children showing fear among those aged 36-47 months, and then a drop in fear at the next age level, with an absence of fear in this situation after 60 months. The percentage of children showing fear in Situation III, Dark Room, has a similar trend. There is a rise in this figure from 46.9 per cent of the cases at 24-35 months to 51.1 per cent of the cases at 36-47 months, then a decline to 35.7 per cent at the next age level and no fear at all shown by the oldest group. Situation VIII, Large Dog, caused a high percentage of fear, 61.9 per cent, in the youngest age group, then decreased to 42.9 per cent in the next two age groups. This situation was not used with any children aged 60-71 months, for reasons already described, so there is no indication as to what the results at this age level might have been. The percentage of children showing fear in Situation VII, the Snake, increased from 34.8 per cent of those aged 24-35 months, to 55.6 per cent of those aged 36-47 months. There is then a gradual decrease in fear at the two older age levels. It is noticeable here that the Snake was the only situation that caused fear in any children aged 60-71 months.

In order to discover whether smaller age units would present age trends that were different in any way from those apparent at yearly age levels, the children were grouped at intervals of six months. Table IX gives the frequency and relative frequency of children at half-yearly age levels who showed fear in response to the various fear situations. It seemed best, since

the small number of cases above 53 months made it impossible to obtain percentages, to include in this table only children whose ages ranged from 24 to 53 months.

The figures presented in Table IX show the same age trends that are apparent in the table based upon yearly age levels, but they are not quite so clearly cut or consistent. The Falling Board situation continues to show a definite and consistent decrease in fear with age, but the Strange Person, High Boards, and Loud Sound show small fluctuations, although the general trend is definitely downward. The figures for the Dark Room and the Snake are about the same as before, showing an increase in fear during the 36-47 months period. The Large Dog shows an inconsistently large increase in relative number of children who were afraid at 30-35 months, and then a decrease. None of the situations shows the great drop in fear that is obvious at the 60-71 month level in the other table, since this table does not give any figures beyond 53 months. An examination of the total figures which represent the percentage of all the children experiencing all the situations, who showed fear, reveals the downward trend of fear with increasing age, except for a slight increase at 42 to 47 months.

Table IX indicates that, when smaller age units are used, based on a smaller number of children at each age level, the picture of the relationship between fear shown in these experimental fear situations and age is not so clearly cut but is affected by small fluctuations.

It was possible that the definition of fear on which these figures are based, which interprets as fear either complete refusal to enter the fear situation or refusal to enter the situation until the experimenter had offered to accompany the child or to enter the situation first, did not include some other behavior which, although not presenting so clear a picture of fear, might yet be indicative of some degree of fear or apprehension. Therefore it was decided to make a separate tabulation of the children whose responses were listed under category 2b, since this category consisted of those responses considered to be indicative of some degree of fear, such as an attempt to withdraw from the situ-

ation, or two verbal protests or excuses, or the like. (A list of these responses has been given on pages 201-203.) Table X shows the number and percentage of children at yearly age levels in each of the various fear situations who showed behavior classified under category 2b.

The figures in Table X show that there were fewer of these responses indicating a slight degree of fear than there were of those responses which were considered to be definitely fearful. However, this table differs from Table VIII in that there were some responses of this sort which occurred in the children aged 60-71 months.

In order to include a tabulation of every response which might be considered as fearful, Tables VIII and X were combined into one table. Table XI then gives the number and percentage of children at yearly age levels who showed behavior classified under categories 2b, 3, and 4 in the various fear situations. This means that a child received a tally of one on this table in any situation in which his responses were classified as 2b, 3, or 4.

When Table XI, which shows the frequencies obtained when category 2b is counted as fear, is compared to Table VIII, it can be seen that the changes in each fear situation with age are almost identical in the two tables. The only difference is in Situation III, Dark Room, which shows a continued decline of fear with age in Table XI while in Table VIII there is a slight rise and then a decline. Since the inclusion of category 2b, which means the inclusion of those responses indicating some slight degree of fear, does not seem to have much effect on the general trend of the relationship between fear and age, it will be omitted from the tables in the future, and when the word fear appears it will refer again to the definition of fear given on page 218.

It is possible to compare the age differences discovered in these experimental fear situations with the age differences in several comparable situations reported in the study based on parents' 21-day observations of their children's fears.⁴¹ Figure

⁴¹Jersild and Holmes, *op. cit.*

TABLE X
Number and Percentage of Children at Yearly Age Levels Who Showed Some Slight Degree of Fear
(Category 2b as Defined on Pages 202-204) in Response to the Various Experimental Fear Situations

Situation	AGE IN MONTHS					
	24-35		36-47		48-59	
	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear
I. Being Left Alone	33	2	6.1	45	14	7.1
II. Falling Boards	33	4	12.1	45	14	7.1
III. Dark Room	32	6	18.6	45	14	7.1
IV. Strange Person	32	3	9.4	45	14	7.1
V. High Boards	31	5	16.1	45	14	21.4
VI. Loud Sound	31	0	0	45	14	0
VII. Snake	23	0	0	45	14	0
VIII. Large Dog	21	3	14.3	36	14	7.1
Total	236	23	10	334	7	6.7
					105	11
						12.4

TABLE XI
Number and Percentage of Children at Yearly Age Levels Who Showed Any Signs of Fear (Categories 2b, 3, and 4 as Defined on Pages 200-204) in Response to the Various Experimental Fear Situations

Situation	24-35			36-47			AGE IN MONTHS			48-59			60-71		
	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear
I. Being Left Alone	33	6	18.2	45	11	24.4	14	2	14.3	12	1	8.3	12	1	8.3
II. Falling Boards	33	12	36.4	45	8	17.8	14	1	7.1	12	1	8.3	12	1	8.3
III. Dark Room	32	21	65.6	45	28	62.2	14	6	42.9	13	3	23.1	13	3	23.1
IV. Strange Person	32	13	40.6	45	17	37.7	14	4	28.6	13	3	23.1	13	3	23.1
V. High Boards	31	16	51.6	45	20	44.4	14	1	7.1	13	3	23.1	13	3	23.1
VI. Loud Sound	31	7	22.6	45	10	22.2	14	2	14.3	13	0	0	13	0	0
VII. Snake	23	8	34.8	36	21	58.6	14	7	50.0	13	4	30.8	13	4	30.8
VIII. Large Dog	21	16	76.2	28	20	71.4	7	3	42.9	—	—	—	—	—	—
Total	236	99	41.9	334	135	40.4	105	26	24.9	89	15	16.9	89	15	16.9

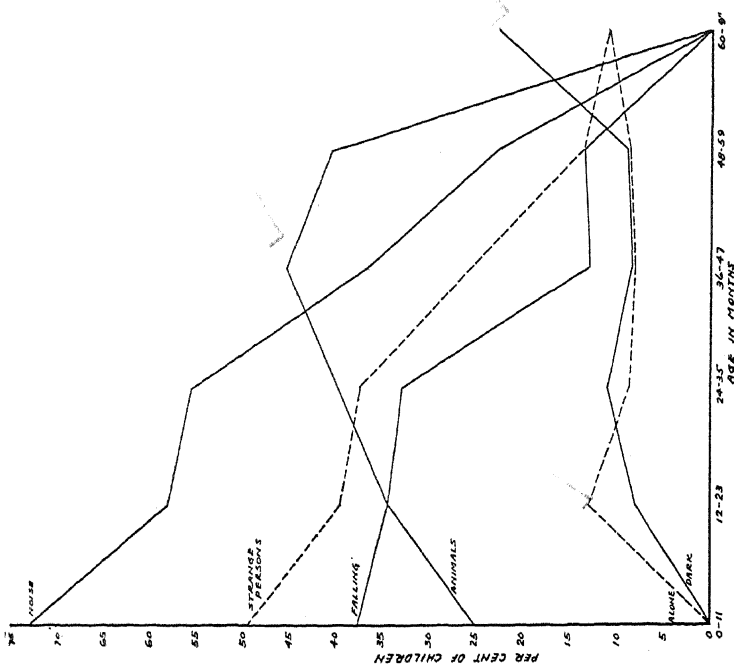


FIGURE 1.—Percentage of children at yearly age levels who showed fear in response to the various experimental fear situations.

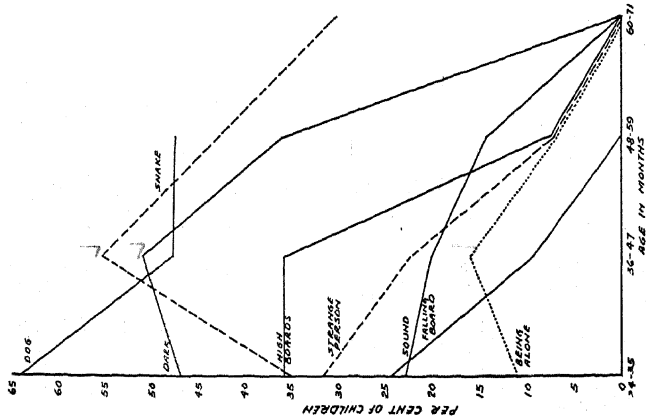


FIGURE 2.—Percentage of children at yearly age levels showing one or more fears in each of various situations, based on data obtained from parents who kept records for periods of 21 days.

1 represents in graphic form the figures already presented in Table VIII. Figure 2 presents in graphic form figures taken from Table VIII in the study just mentioned, representing the percentage of children who showed one or more fears in the various fear situations when only one tally was allowed per child for one or more fears of the same class. In both Figure 1 and Figure 2 the children are grouped at yearly age levels.

When these age curves are compared it can be seen that the general age trend in most of the situations is quite similar. In both cases the curves for height and falling, noises, and strange persons decline with age. The curve for the snake in the experimental situations is quite similar to that of the curve for animals as a whole in the 21-day record. Both curves rise to 47 months and then show a gradual decline. The curve for the dog, on the other hand, is quite different from that of animals in the other study, as it drops from a high level at 24 months, and then remains stationary for the next two age levels. Two other situations that show different age trends in the two studies are fear of the dark, and fear of being alone. In the parents' 21-day records both of these situations show an increase with age in the relative frequency of children showing fear. In the experimental fear situations, however, there is an increase with age up to 47 months and then a decline, with no fear at all appearing at the oldest age level of 60-71 months. Also, as has been mentioned previously, all the experimental fear situations, except the snake, aroused no fear responses in children beyond the age of 60 months. This cannot be interpreted to mean that children over 5 years of age have none of these fears. The behavior of the children over 5 years in the experimental fear situations indicated only that they were not afraid of and were willing to enter into these specific fear situations. However, in this case, an adult who had previously appeared to gain the child's confidence by playing games with him was present and urged the child to enter into the fear situation. If the child hesitated the experimenter reassured him and again urged him to enter. It is possible that the reassuring presence of an adult was interpreted by these older children to mean that the situation held

no danger, and they were, therefore, willing to enter into the situation.

Another expression of the general decline in amount of fear with age is shown in the correlations between fear scores and age. The correlation between fear scores on six situations (the method of computing fear scores has been described on page 204) and age for the 103 children who were exposed to six situations was found to be $-.40 \pm .06$. When a correlation was computed between fear scores and age for the 55 children who were exposed to eight situations it was found to be $-.096 \pm .09$. The difference between these two correlations can be explained by the fact that of the group of children who experienced eight fear situations there were no children more than 50 months of age, and the greatest decline in per cent of fear occurred, as has already been mentioned, in the group of children aged 60 to 71 months. Therefore one would expect to find little or no degree of relationship between amount of fear as a whole and age in the group under 50 months of age. For those situations which showed an increasing trend in relative frequency of fear up to 48 months would counterbalance those which had a decreasing trend. The correlation of $-.40$ between fear score and age when all children are included would be caused chiefly by the group of children aged 60-71 months, who showed almost no fear.

CHAPTER VII

INTELLIGENCE AND FEAR

SINCE there were I.Q. ratings available for seventy-one of the subjects it was possible to raise the question whether any relationship existed between intelligence and fear. The I.Q. ratings were obtained by the Minnesota Pre-School Scale, Form A. The fear score for each child (obtained from the experimental fear situations as described on page 204) offered a quantitative rating which could be correlated with the I.Q. ratings. Of these intelligence ratings fifty-three were of children in the private nursery school and eighteen were of children in the day nursery.

The correlation between the fear scores obtained from six experimental fear situations (the scores obtained from only six situations were used here because the eighteen children attending the day nursery were not exposed to all eight fear situations) and the I.Q. ratings of these seventy-one children was found to be $.30 \pm .07$. A correlation was also obtained between the fear scores from eight experimental situations (the subjects in this case were fifty-one children attending the private nursery school) and the I.Q. ratings. This correlation was found to be $.25 \pm .09$. These results would seem to indicate that when amount of fear is measured by the quantitative fear score obtained in these experimental situations, there is a slight positive relationship between amount of fear and intelligence. The more intelligent the child the more frequently he tended to react in a manner defined in this study as indicating fear.

In order to discover whether only one or two experimental situations were more feared by the more intelligent children and therefore influenced the correlations first mentioned, the relationship between intelligence and fear in each situation was investigated. The twenty children with the highest intelligence quo-

tients, ranging from 128 to 150, were compared to the twenty children with the lowest intelligence quotients, ranging from 82 to 116, with respect to number and percentage showing fear in each experimental situation. The percentage of children showing fear was higher for the more intelligent children in six of the eight situations. The Loud Sound and the Large Dog were the only situations in which the less intelligent children showed a greater percentage of fear. The difference between the two groups in these two situations was very slight, however.

TABLE XII

Rank Correlations between Fear Score
on Six Situations and Intelligence, When
the Subjects Are Grouped in Yearly Age
Levels

Age in Months	Number of Cases	Rank <i>r</i>
24-35	23	.53
36-47	34	.18
48-59	9	.10
60-71	5	.10

It was then decided to divide the subjects into yearly age groups and to obtain the rank correlations between fear score and intelligence for each age group. These results are given in Table XII.

These figures show that the correlation between fear and intelligence for the youngest age group, that of 24 to 35 months, was found to be .53. This is much greater than the correlation of .18 obtained for the next age group of 36 to 47 months. The correlations obtained for the two older age groups, 48 to 59 months and 60 to 71 months, were both .10.* The number of cases in these two groups, however, is too small to be of much significance.

Correlations were computed between the fear scores on eight situations, including only the children from the private nursery

* The restricted range of intelligence, including few I.Q.'s below 100, influences these coefficients. It is not possible to predict the degree of relationship that might be found to exist between fear and intelligence if the subjects had been a more representative group.

school, and intelligence. In this case there were not enough children over 48 months of age to obtain a correlation coefficient beyond that age. The correlations obtained for the two year groups, 24 to 35 months and 36 to 47 months are given in Table XIII.

TABLE XIII

Rank Correlations between Fear Score
on Eight Situations and Intelligence,
Including Only the Subjects in the First
Two Yearly Age Levels

Age in Months	Number of Cases	Rank r
24-35	21	.50
36-47	26	.21

The figures in both tables show a larger correlation between fear and intelligence in the youngest age group, 24-35 months. One explanation of this difference might be that this youngest group is the most fearful and also the most intelligent. However, the difference between the two groups in total amount of fear shown is very slight. The average fear score for six situations of the youngest age group, 24-35 months, is 7.8, while the average fear score of those aged 36-47 months is 6.8. This difference is so small as to have little influence on the correlations. As for intelligence, the average I.Q. of the youngest group was found to be 122.4, while that of the older group was 122.2. Therefore, since the average intelligence of the two groups is almost identical and the difference in average fear score of the two groups is negligible, this cannot account for the large difference in the correlations between fear and intelligence in these two age groups.

The rank correlation of .53 between fear and intelligence in the youngest group when all children are included, and the correlation of .50 between fear score in eight situations and intelligence in this age group when only children from the private nursery school are included, indicate that there is some degree of relationship between these two factors among the children under

three years used as subjects in this study. The much smaller correlations of .18 and .21 found when these factors were correlated for the older group show a definite decrease in this relationship. It might be suggested here that if fear is a function of developmental level, and if the development of fear is a part of the general maturation of behavior, then the more intelligent child might be expected to develop certain fears earlier than the less intelligent child just as he might be expected to show earlier the development of the ability to perceive form by placing round and square blocks in the correct holes. Jones has advanced the theory that general maturation leads to greater sensitivity and more discriminatory responses, and that fear is a part of these responses. If this is so then such responses might be expected to appear earlier in the bright child than in the less intelligent child.

However, this point is one which cannot be answered on the basis of the evidence gathered here. This is a finding which needs further investigation and this study can merely point out that the data presented here suggest the possibility of a relationship between fear and intelligence which should be investigated further.

CHAPTER VIII

SEX DIFFERENCES OCCURRING IN THE EXPERIMENTAL FEAR SITUATIONS

THE figures presented in Table XIV give the number and percentage of boys and the number and percentage of girls who showed fear in response to the various experimental fear situations. In almost every situation the number and relative frequency of girls who were fearful is higher than the number and relative frequency of boys who were fearful. The difference in percentage of fear between boys and girls is very slight in the two situations High Boards and Loud Sound. The greatest difference in percentage of fear shown by boys and girls occurred with Falling Boards and Strange Person, where the figure for the girls is twice as large as that for the boys.

TABLE XIV

Number and Percentage of Boys and Number and Percentage of Girls Who
Showed Fear in Response to the Various Experimental Fear Situations

Situation	Boys			Girls		
	No. of Boys Studied	No. Showing Fear	Per Cent Showing Fear	No. of Girls Studied	No. Showing Fear	Per Cent Showing Fear
I. Being Left Alone ...	57	7	12.3	47	5	10.6
II. Falling Boards	57	4	7.0	47	8	17.0
III. Dark Room	56	20	35.7	48	23	47.9
IV. Strange Person	56	8	14.3	48	13	27.1
V. High Boards	56	15	26.8	47	13	27.7
VI. Loud Sound	56	10	17.9	47	8	17.0
VII. Snake	50	20	40.0	36	18	50.0
VIII. Large Dog	39	18	46.2	17	10	58.8

Table XV presents the frequency and relative frequency of boys and of girls at yearly age levels who showed fear in response to the various fear situations. These figures also indicate that

TABLE XV
Number and Percentage of Boys and Number and Percentage of Girls at Yearly Age Levels Who Showed Fear in Response to
the Various Experimental Fear Situations

Situation	AGE IN MONTHS									
	24-35					36-47				
	Boys		Girls		No. of Boys Studied	Boys		Girls		No. of Girls Studied
	No. of Boys Studied	No. Showing Fear	Per Cent Showing Fear	No. Showing Fear		No. Showing Fear	Per Cent Showing Fear	No. Showing Fear	Per Cent Showing Fear	
I. Being Left Alone	18	1	5.6	3	15	26	10.2	2	10.5	19
II. Falling Boards	18	4	22.2	4	15	26	0	4	21.1	19
III. Dark Room	17	6	35.3	9	15	26	42.3	12	43.2	19
IV. Strange Person	17	1	5.9	9	15	26	23.1	4	21.1	19
V. High Boards	17	3	17.6	8	14	26	42.3	5	20.3	19
VI. Loud Sound	17	4	23.5	3	14	26	15.4	5	26.3	19
VII. Snake	13	3	23.1	5	10	24	50.0	8	66.7	12
VIII. Large Dog	12	6	50.0	7	9	21	42.9	3	42.9	7

Situation	AGE IN MONTHS									
	48-59					60-71				
	Boys		Girls		No. of Boys Studied	Boys		Girls		No. of Girls Studied
	No. of Boys Studied	No. Showing Fear	Per Cent Showing Fear	No. Showing Fear		No. Showing Fear	Per Cent Showing Fear	No. Showing Fear	Per Cent Showing Fear	
I. Alone in Room	9	1	11.1	0	5	4	0	0	0	8
II. Falling Boards	9	0	0	0	5	4	0	0	0	8
III. Dark Room	9	3	33.3	2	5	4	0	0	0	9
IV. Strange Person	9	1	11.1	0	5	4	0	0	0	9
V. High Boards	9	1	11.1	0	5	4	0	0	0	9
VI. Loud Sound	9	2	22.2	0	5	4	0	0	0	9
VII. Snake	9	3	33.3	3	6	4	2	50	20	10
VIII. Large Dog	6	3	50.0	0	1	—	—	—	—	—

in the two-year groups, 24-35 months and 36-47 months, the percentage of girls showing fear is consistently higher in almost every fear situation than the percentage of boys showing fear in these situations. The small number of cases in the two oldest age groups, when the subjects are divided according to sex, makes these figures showing relative frequency of fear of less significance.

Another means of examining differences in the behavior of boys and girls when they were exposed to the experimental fear situations was to compare their fear scores. The average fear score for the fifty-six boys who were exposed to six fear situations was found to be $5.13 \pm .55$. The average fear score for the forty-seven girls in these same six situations was found to be $7.33 \pm .65$. The reliability of the difference ($\frac{D}{\sigma_{diff.}}$) of the two averages is 2.58, which means that there are 99 chances in 100 that the true difference is greater than zero.

The number of boys in the group as a whole was larger than the number of girls, and since this difference in number might have an influence on the average fear score of the boys, if there were more boys over 60 months of age than girls (it has already been mentioned that the children over 5 years were less fearful), it was decided to select pairs of boys and girls, matched as to age, and to compare the average fear score of these two matched groups. There were twenty-nine pairs matched so that the age in months of each pair was identical except for five pairs where there was a difference in age of one month. The average age for these twenty-nine boys was 41.4 months, and the average age of the twenty-nine girls was also 41.4 months. The average fear score for the twenty-nine boys was found to be $4.45 \pm .59$ and average score for the twenty-nine girls was $7.65 \pm .77$. The reliability of the difference ($\frac{D}{\sigma_{diff.}}$) of these two averages is 3.29.

This means that there are 99.9 chances in 100 that the true difference between these two averages is greater than zero, and that the obtained difference is reliable.

It was decided to compare these results obtained from data gathered in the experimental fear situations with some other measure of fearfulness. The nursery school teachers of those children who attended the private nursery school had been asked to rate the children on a numerical scale, which ranged from 0 to 19, as to the degree of fearfulness observed in the children's behavior in the nursery school. Each child was to be compared with the others in his group and given a numerical rating on this scale. (A more detailed description of these rating scales will be given in a later section.) Each child was rated independently by three or more teachers and the experimenter then assigned a score which represented the average of these ratings. Eighteen pairs of these boys and girls who were thus rated were matched as to age as closely as possible. Of these pairs, eleven were matched exactly as to age in months, four pairs had a difference in age of 1 month, one pair had a difference of 2 months, and two pairs had a difference in age of 3 months. The average age for the boys was 34.8 months. The average age for the girls was 34.7 months. The average rating scale score of the eighteen boys was found to be 6.74 ± 1.6 , and that of the girls 8.42 ± 2 . The difference between these two averages is not large and the reliability of the difference is .66, which means that there are 74 chances in 100 that there is a true difference greater than zero.

Although the average scores assigned by the teachers when they rated the children as to fearfulness show that the girls, on the whole, were rated as more fearful than the boys, this difference is not large enough to be reliable. Yet it shows the same trend as those sex differences appearing in the results obtained in the experimental fear situations, where the average score for the girls is much higher than for the boys and the difference between the two is reliable. The evidence from every angle seems to indicate that the girls were somewhat more susceptible to fear than were the boys.

This sex difference might be explained by the selection of the situations used as fear stimuli. It is possible that the eight experimental fear situations used in this study were, by chance, situations in which girls tend to show fear more frequently than boys.

If different situations had been used the boys might have appeared more fearful. If a very large number of fear situations had been used, including all fear stimuli which might occur in the everyday life of the child, it is possible that no sex differences with respect to average fear scores of boys and girls would have appeared.

It might possibly be argued, on purely academic grounds, that girls are more expressive and express fear more overtly than boys. It might also be suggested that this difference is a cultural or educational one. That is, that parents tend to emphasize to their little boys the necessity for repressing signs of fear. One often overhears parents make such remarks as, "Little boys shouldn't be afraid of dogs," whereas they are not nearly so likely to make objections to signs of fear in their girls, and may possibly, in some cases, even encourage them. There is no evidence in the study on which these theoretical points can be discussed, however.

It should be particularly noted here that although the results presented thus far indicate that age and sex both seem to have some relation to the fear behavior shown in these experimental fear situations, yet many differences occur that cannot be accounted for by these factors. The two boys mentioned before, aged 48 months and 49 months, are only two of many cases of like sex and age whose fear score and fear behavior differ widely. There must, therefore, be other factors that influence the responses of the various children exposed to these fear situations.

The sex differences in regard to fear reported in a study based on data obtained from parents who kept records for twenty-one days⁴² are slight. The resemblance between the fears of boys and girls were more outstanding than the differences. There was no significant sex difference in fears of animals and noise, although the girls were slightly more fearful. In the experimental fear situations the relative number of boys and girls who showed fear of the loud sound was also practically the same, although the girls showed more fear of the dog and slightly more fear of the snake. In the parents' records the boys led the girls in frequency

⁴² Jersild and Holmes, *op. cit.*

of fear of falling, while in the experimental records this situation was reversed. Girls, in both studies, exhibited more fear of strange persons, and boys, in both studies, were slightly ahead of the girls in fear of being alone, or abandoned. The fact that these two studies show results which are, in some cases, not consistent with one another in regard to sex differences is, perhaps, to be expected when data, obtained when children are observed under controlled, experimental conditions, are compared with data obtained by observing children as they behave in their everyday environment.

CHAPTER IX

FEAR AND SOCIO-ECONOMIC STATUS

THE children used as subjects in this study were such that it was possible to make comparisons between two groups of differing socio-economic status. It has already been stated that the group of children attending the private nursery school came from homes whose socio-economic status could be considered as relatively high, while the children from the day nursery would be considered as coming from homes whose socio-economic status was relatively low. Therefore it was possible to compare the children belonging to these two contrasting groups in respect to their behavior when confronted with the experimental fear situations.

The composite fear score obtained by these children in six experimental fear situations was the basis on which this comparison was made. The score on only the first six situations could be used because most of the group from the day nursery had not been exposed to all eight situations. The possible range of scores thus obtained on six situations would be 0 to 24. The average fear score obtained on these six situations by the group of fifty-six children attending the private nursery school was $7.05 \pm .59$ and the average fear score of the group of forty-seven children attending the day nursery, who were exposed to six situations, was found to be $5.15 \pm .58$. The reliability of the dif-

ference between these two averages ($\frac{D}{\sigma_{diff.}}$) is 2.33. This means

that in 99 cases in 100 the true difference between these averages would be greater than zero, and therefore the difference found here can be considered reliable. This would seem to indicate that the children of the private nursery school were more fearful as a group than the children of the day nursery. There is, however, an obvious factor which influences the results when treated

in this way. It has already been noted in the discussion concerning the relation between fear and age that the older children were less fearful than the younger ones. It happens that all the children of 54 months and older in this study were from the day nursery. Therefore there was a greater proportion of less fearful children in the day nursery. It is the factor of age rather than that of socio-economic status, then, which probably caused the difference between the average fear scores of the two groups. It might also be suggested here that, since a sex difference in fear behavior exists in this study, this factor had influenced the results of this comparison. However, since, as previously stated, the girls were found to be more fearful as a group than the boys, and there was a greater proportion of girls in the day nursery group, this could hardly account for the smaller fear score of this group.

In order to remove the influence of age and sex, the children from the two groups were carefully matched as to age and sex. There were fifteen pairs that could be matched in this way, seven pairs of boys and eight pairs of girls. The greatest difference in age between members of any pair was twenty-four days. The average age of the fifteen private nursery school children was 38.3 months, and the average age of the other group was the same. When the average fear score on six situations was calculated for the fifteen nursery school children of these matched groups it was found to be 7.9 ± 1.2 , and the average fear score of the day nursery group was $8.1 \pm .88$. These averages are very closely alike. The reliability of the difference is only .14, which means that the difference is no greater than that which might be expected to occur by chance. This indicates that when the factors of age and sex no longer influence the results there is no appreciable difference in the amount of behavior considered as indicating fear in these two different socio-economic groups.

The two groups were also compared as to their fearfulness in the various specific fear situations. Table XVI gives the frequency and relative frequency of all the children in the two groups who showed fear in response to the various fear situations.

TABLE XVI

Frequency and Relative Frequency of Children in Two Different Socio-Economic Groups Who Showed Fear in Response to the Various Experimental Fear Situations

Situation	PRIVATE NURSERY SCHOOL		DAY NURSERY SCHOOL		PRIVATE NURSERY SCHOOL	DAY NURSERY SCHOOL
	No. of Children Studied	No. Showing Fear	No. of Children Studied	No. Showing Fear	Per Cent Showing Fear	Per Cent Showing Fear
I. Being Left Alone	56	9	48	3	16.1	6.3
II. Falling Boards	56	7	48	5	12.3	10.4
III. Dark Room	56	29	48	14	51.8	29.2
IV. Strange Person	56	13	48	8	23.2	16.7
V. High Boards	56	20	47	8	35.7	17.0
VI. Loud Sound	56	12	47	6	21.4	12.8

These figures could not be obtained for the matched groups as there were not enough of these cases to calculate percentages. The figures in Table XVI show a consistently greater percentage of fear in every situation for the children of the private nursery school. This agrees with the results obtained when the average fear scores of the two groups with all the children included, were compared. It seems likely, therefore, that the greater number of older children in the day nursery group affected these results in the same way as that previously stated. When these figures for the two groups are examined it can be seen that the order of the various situations in their ability to evoke a fear response

TABLE XVII

Difference and Reliability of the Difference between Average Fear Scores on Six Situations of Boys and Girls in Two Different Socio-Economic Groups

	NUMBER OF CHILDREN		AVERAGE FEAR SCORE OBTAINED ON 6 SITUATIONS		RELIABILITY OF THE DIFFERENCE
	Boys	Girls	Boys	Girls	$\frac{D}{\sigma_{diff.}}$
Private Nursery School	18	38	5.76 ±.63	9.67 ±1.	3.23
Day Nursery School	28	19	4.26 ±.95	5.63 ±.80	1.10

is almost the same for both groups, with the exception of Being Left Alone and Falling Boards, whose positions are reversed.

There is one evident difference between the two groups which is of interest. It has already been stated that the girls as a group were found to be more fearful than the boys. However, the difference in average fear score on six situations between the boys and the girls of the nursery school group is very much larger than the difference in average fear score found between boys and girls in the day nursery group. The figures are given in Table XVII. While the difference between boys and girls in the nursery school group is a reliable one, the sex difference discovered in

the day nursery cannot be considered reliable, as the $\frac{D}{\sigma_{diff.}}$ is only 1.10. In both groups, however, the girls are still the more fearful. The same thing holds true in the matched groups, where the influence of age is eliminated. The boys of the nursery school group had an average fear score of 5.9, while the fear score of the girls was 9.6, a difference of 3.7 points (the number of cases is too small to obtain a $\frac{D}{\sigma_{diff.}}$). The boys of the day

nursery attained an average fear score of 7.1, while the girls' fear score was 8.9, a difference of only 1.8 points. In other words, the difference between the boys' and the girls' averages in the private nursery school was twice as large as that found in the day nursery. In both groups, as before, the girls are the more fearful. When these figures are examined it can be seen that the scores of the girls of the nursery school, both in the matched groups and in the complete groups, are the higher. The boys and girls of the day nursery are fairly similar in regard to their behavior in these fear situations, while a large sex difference is apparent in the children of the private nursery school.

While the data assembled for this study do not yield the information with which actually to interpret this difference, it might be suggested here that the parents having the higher socio-economic status perhaps tended to encourage greater caution in their girls, while the parents of the lower socio-economic status tended to treat their boys and girls in very much the same way.

CHAPTER X

THE RELATIONSHIP BETWEEN THE FEAR SHOWN BY THE SUBJECTS IN THE EXPERIMENTAL FEAR SITUATIONS AND DATA CONCERNING THEIR FEARS OBTAINED FROM OTHER SOURCES

THE FEAR RATING SCALE

AS INDICATED above, in order to secure some other measure of fearfulness to relate to the data obtained from the experimental fear situations, the nursery school teachers were asked to rate the children in their charge independently and without consulting one another, on a rating scale in which each child was to be compared with the others in his group with reference to general fearfulness shown in the nursery school environment. The numbers on the rating scale, reproduced below, ranged from 0 to 19, 0 representing the lowest rating that could be assigned and 19 the highest rating. The fifty-four children thus rated were all attending the private nursery school. These children were divided into four separate nursery school groups and therefore each teacher could be asked to rate, on this scale, only the children in her particular group. Each child was given a rating by at least three teachers, while some children were rated by five different teachers. Each child was given a final rating score which was derived by averaging the scores assigned to him by the various teachers who rated him on this scale. For instance, if a child was given a number rating of 7 by teacher A, a rating of 10 by teacher B, and a rating of 13 by teacher C, the child's rating score would be the average of these three scores, or 10. The scores obtained in this way ranged from 1.7 to 17.8. The average score for the group of fifty-four children was found to be $8.1 \pm .52$ and the S.D. of the group was 3.8.

CHILDREN'S FEARS

Fear Rating Scale

Give each child a number rating on this scale. Base your rating on your general impression of the child as compared to others in the nursery school group.

	Not Very Fearful				Below Average				About Average				Somewhat Above Average				Very Fearful			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Anton.....																				
Joseph.....																				
Gene.....																				
Patience.....																				
Lucy.....																				
Timmy.....																				
Saul.....																				
Jean.....																				
Herbert.....																				
Irving.....																				
Max.....																				
Tom.....																				
Virginia.....																				

Rank correlations were obtained between the sets of scores assigned to the four groups of children by the various teachers in order to discover how closely the teachers agreed in their general impression of the fearfulness of the children under their care. These correlations are presented in Table XVIII. They range from .85 down to -.62. Of the nineteen correlations in this table, four are minus correlations and three are above .80. This would indicate that in some cases there is close correspondence among raters and in other cases a large amount of disagreement. Since this is the case, the number rating score assigned to the children on the basis of these ratings cannot be considered as very reliable. It is, perhaps, significant that the four minus correlations all occur in Group II where there were five different teachers who rated the children. In this case each teacher was particularly responsible for only four or five children whom she

TABLE XVIII

Rank Correlations Obtained between Raters
When the Teachers of Four Nursery School Groups Rated
the Children as to Fearfulness

Raters	Number of Children Rated	Rank <i>r</i>
<i>Group I</i>		
A and B	15	.84
A and C	15	.85
B and C	15	.78
<i>Group II</i>		
A and B	18	.79
A and C	19	-.20
A and D	18	.60
A and E	19	.41
B and C	19	-.62
B and D	18	.55
B and E	19	.35
C and D	19	-.09
C and E	20	-.06
D and E	19	.41
<i>Group III</i>		
A and B	13	.61
A and C	13	.68
B and C	13	.43
<i>Group IV</i>		
A and B	8	.62
A and C	8	.24
B and C	9	.81

knew very well, with the result that her ratings of the other children in the group were not based on intimate knowledge.

The number rating scores assigned to the fifty-four children by averaging the scores of the various raters were correlated with the fear scores obtained by these same children in eight experimental fear situations. The correlation between these two sets of scores was found to be $.39 \pm .08$. In order to discover whether the head teachers, who knew all the children equally well, would be able to give a more reliable rating in regard to their fearfulness the rating scores of the head teachers alone were correlated with the fear scores based on eight situations. The rank correlation between the rating scores assigned to nineteen children

by one head teacher was .32, slightly lower than the correlation obtained between the average of the teachers' ratings and fear scores. The other head teacher rated twenty-one children, and the correlation between her rating scores and the fear scores was .71. This indicates that if the head teacher's ratings alone had been used for all the children the correlation between ratings and fear score would have been somewhat higher.

When these fifty-four children were assigned rating scores obtained by calculating the median of the scores given by the various raters, the correlation between this set of scores and the scores on eight experimental fear situations was found to be $.48 \pm .07$. There is, then, in spite of the unreliability of the teachers' ratings, a positive relationship between the relative amount of fear shown by the various children in the experimental fear situations, and the fear shown by the same children in the nursery school environment and observed by the nursery school teachers. It must be mentioned here, however, that the nursery school teachers did not have the opportunity of observing the children whom they rated in many of the situations used in the experimental study. For instance, it is not likely that any of the teachers would have observed the behavior of the children they rated when they were requested to enter a dark room or to approach a snake. Many of the teachers had probably not had the opportunity to observe these children when a dog approached or when the children were in the presence of a strangely dressed person. When these facts are considered and when the unreliability of the rating scale is taken into consideration, it is interesting that positive correlations as high as those described above were obtained.

PARENTS' CHECK LIST OF FEARS

In order to obtain from the parents of the children used as subjects of this study some information that could be treated in a quantitative manner concerning their children's fears, a check list of possible fears was compiled and given to thirty-one parents to fill out. The items on this check list, reproduced below, were derived from a portion of the parents' reports of their children's

fears obtained in the preliminary stages of the study referred to earlier.⁴³ However, the check list of fears used here is probably a fairly representative sample of the fears reported by the parents of the 153 children. The eight fear situations used in the experimental study are also represented in this check list, namely, alone, displacement, dark, noises, strange persons, and animals.

The check list was presented to the thirty-one parents at the completion of an interview concerning their children's fears, undertaken for the study just mentioned. They were asked to take the list home with them to fill out, and to return it within a few days. The directions given were simple; they were told to read the list carefully and to indicate with a check mark any fears which they had ever observed in their children. They were also asked to write in any other fears which they had observed but which were not included on the list. Of these thirty-one parents who were interviewed and presented with the check list, twenty-one filled out and returned the list. The children of all the parents interviewed were attending the private nursery school.

Although this means of acquiring information concerning the fears these children showed at home is necessarily unreliable, because the parents probably differed in their ability and willingness to try to remember and check all the fears they had observed in their children, and also because of the varying amounts of time the different parents spent with their children in which they could have the opportunity to observe fear behavior, yet this method offered a very rough indication of the type and amount of fear shown by these children in their home environment. Therefore the total number of different fear situations, reported

Check List of Fears

Has your child ever shown fear of any of the following:

1. Animals

- dogs, not approaching, merely seen
- dogs, approaching and active
- dogs, barking or growling
- cats
- horses

⁴³ Jersild and Holmes, *op. cit.*

snakes
turtles, lizards, etc.
pigeons, other birds
insects
rabbits, guinea pigs, white rats, or mice
other animals, specify

2. Strange Objects

machines such as: truck, train, street car, steam roller, etc.
objects resembling animals such as: fur scarf, muff, toy animals,
etc.
new toys, and other objects seen for first time
shadows
others, specify

3. Strange People

strangers on street
strangers visiting home
unusual or odd looking people
very old people
false faces, masks
crowd of strangers

4. Unfamiliar Appearance of the Familiar

familiar adults dressed differently, with or without glasses, with
bandage, etc.
others, specify

5. The Dark

entering dark room, bedroom at night
others, specify

6. Being Left Alone

7. Being Abandoned

8. Unexpected Movement

curtains blowing, leaf moving in wind
others, specify

9. Scary Game

10. Pain or Injury

hot radiator, hot stove, etc.
doctors or anything connected with doctors
others, specify

11. Noises

familiar in unfamiliar time or place, telephone or doorbell, etc.
familiar suddenly occurring, telephone, etc.
moving objects: trains, trucks, etc.
noise from unseen source
others, specify

12. Displacement

falling play, off tricycle, climbing apparatus, etc.
danger of falling, on high place, etc.
falling or insecurity in walking, blown by wind, etc.
sudden displacement, tilted suddenly, etc.
others, specify

13. Dreams

specify

14. Shut in Small, Enclosed Space

specify

in this check list, was tallied for each child. Since this number might be considered a rough quantitative measure of fearfulness, it could be compared to the quantitative fear score obtained in the experimental fear situations. Therefore a rank correlation was computed between the number of fears checked on this list and the fear scores on six experimental fear situations. The rank correlation thus obtained in twenty-one cases was found to be .58. This seems to indicate that there is a definite positive relationship between these two quantitative measures of fearfulness. A child who tends to show a somewhat large number of fears in his home environment also tends to show relatively more fear behavior when exposed to the experimental fear situations used in this study.

The fear scores assigned to these twenty-one children by their teachers, in the fear rating scale previously discussed, were also correlated with the number of fears recorded on the check list. This rank correlation was found to be .25. Although this correlation is low, it still tends to indicate a slight positive relationship between the teachers' judgments of general fearfulness in the nursery school situation and the amount of fear observed by

parents in the home environment. This correlation, however, is very much smaller than the correlation obtained between the experimental fear scores and the number of fears on the parents' check list. This difference might very likely be due to the fact that in the nursery school situation the teachers have an opportunity to observe only relatively few situations that might arouse a fear response. On the other hand, the home environment and the other places such as street and playgrounds in which the parents are able to observe their children probably offer a larger sample of possibly fear-inspiring situations. The experimental fear situations were also planned to give a representative sample of the situations which might inspire fear. Therefore it might be expected that the relationship between the number of fears observed by parents and fears in the experimental fear situations would be greater than the relationship between the fears observed in the more limited nursery school environment and those recorded on the parents' check list.

Although the small number of cases and the unreliable method of obtaining a sample of the number of fears occurring in the home environment make these conclusions of only slight significance, still it is of interest that a correlation as high as .58 could be obtained between parents' reports of fears and experimental results. This, together with the correlation of .39 between teachers' rating scale scores based on the experimental fear situations, does give some quantitative measure of individual differences in fear behavior in these situations which is related to the fear behavior shown by these same children in the normal home and school environment.

DIFFICULT BIRTHS AND FEAR BEHAVIOR

It has been suggested by various writers, including Freud and Rank, that the shock to the child of a difficult birth or "birth trauma" may affect its subsequent behavior. Kenworthy⁴⁴ has stated that "many of the early problems presented by children seem to be rooted in the many-sided feeling experiences of the

⁴⁴ Kenworthy, M. E., "The Experience of Birth." *Child Study*, Vol. 8, p. 222, 1930-1931.

birth period." Since this study offered a quantitative method of scoring fear behavior, it was possible to attempt to discover whether any relationship existed between difficult births and fear behavior in the children included in this study.

Some information was available concerning the births of most of the children attending the private nursery school. This information was contributed by the parents in the developmental history records filled out for each child. Birth trauma or shock to the child at birth might be expected to be caused by a long, protracted, and difficult labor, or by one requiring instruments and surgical delivery. There were seventeen such cases among the subjects used in this study. There were six of these who were born after a labor lasting twenty-four hours or longer, ten who experienced surgical deliveries, and one with a breach delivery. The six cases of long labor were all first-born children, who, it has been stated, have a more difficult time at birth than children born after the birth canal has been widened by a previous birth. The average fear score, based on eight situations, of this group of seventeen children was compared to the average fear score of the remaining children of the nursery school group. The average fear score of those who experienced a difficult birth was 11.9. The average fear score of the remaining thirty-eight children of the nursery school group was 11. This difference is negligible.

The reliability of the difference ($\frac{D}{\sigma \text{ diff.}}$) between these two averages is 0.5, which statistically represents only 69 chances in 100 that the difference is a true one.

In a further attempt to determine if any relationship existed between an uncomplicated and easy birth and later lack of fear, those children were selected whose births were described as "normal," with a labor lasting only ten hours or less. The average fear score of this group was 12.2, which is very slightly higher than the average (11.9) of the children who experienced difficult births. This difference, however, is so small as to be statistically unreliable and no larger than might be expected to occur by chance.

Second-born children have, as a rule, an easier birth than first-

born children. There were six children among the subjects who had "normal" births, with ten hours or less of labor, and who had older siblings. This number is too small to treat statistically. However, three of these children had fear scores below the average, while three had scores above the average. They therefore showed no signs, as a group, of being less susceptible to fear than the other children because of their lack of a number of the shocks at birth.

Birth by Caesarean section has been described as being the very easiest birth for the child. There were three such cases among the subjects of this study. Their fear scores were 12, 18, and 12 respectively, all above the average. This would indicate that the absence of most of the shocks at birth did not in any way affect their subsequent susceptibility to fear.

The data presented here show that the children attending the private nursery school who experienced difficult births were not reliably different from the group as a whole with regard to amount of fear behavior evidenced in these experimental fear situations. It therefore appears that the possible shock involved in a difficult birth seemed to have no effect on the subsequent fear behavior of these children.

CHAPTER XI

THE RESULTS OBTAINED BY VARIATIONS IN FOUR EXPERIMENTAL FEAR SITUATIONS

IT WAS believed that it might be of interest to repeat some of the fear situations with various changes in order to discover what, if any, changes in behavior occurred. In this way it might be possible to discover whether intensifying or increasing the fear stimulus caused an increase in fear behavior, or whether adding a new element to a particular situation resulted in increased or decreased signs of fear. It should be mentioned here, however, that this was not considered one of the main aims of the study. It was included as a possible preliminary experiment that might offer suggestions toward future study at a later date.

Four of the experimental fear situations appeared to lend themselves easily to some change. These were Falling Boards, Dark Room, Strange Person, and Loud Sound. The variations in these four situations were as follows: the Falling Boards which, as described on page 179, had formerly been raised two inches from the floor, were now raised four inches, so that as the child stepped on the end of the board which tipped it descended four inches to the floor; the Dark Room experiment was altered so that as the child started to enter the doorway a groaning sound issued from the other end of the dark passageway (this was caused by the assistant who was secreted at the end of the passageway where the darkness hid her from the sight of the child); the Strange Person experiment was changed so that, as the child started to enter the room where the Strange Person was seated, she suddenly stood up, where formerly she had remained quietly seated; the Loud Sound (made by the striking of an iron pipe with a hammer, as described on page 184), was sounded continuously this time until the child had investigated

the source of the sound and entered the screened-off corner of the room, or else refused to do so, where formerly the pipe was struck only once.

The children selected as subjects for these various situations were those who had not shown fear in these particular situations, with the exception of the Loud Sound, when exposed to them before. For instance, if a child had shown fear of the dark, but not of the other three situations, then he was used as a subject for those three but not for the Dark Room. Fear is defined here, as it has been throughout the study, according to the definition on page 218. It was felt that if a child had already shown fear in a particular situation, it might be too upsetting for him to be exposed to that situation when it was intensified, and also it would not contribute much added information. But it would be of interest to observe the behavior of those who had not formerly shown fear when exposed to these situations. The exception was the Loud Sound, which formerly had been rather ineffective in causing fear. All the available subjects were used for this situation even though they had shown fear before. The interval of time between the children's first experience with the fear situations and these variations was from one to two months.

Twenty-nine children participated in the variation of the Falling Boards situation. Only one of these children showed fear when the fear stimulus was intensified by increasing the height of the fall. Of the eighteen children who had formerly shown no fear of the Dark Room, fourteen showed definite fear when a new element, such as a groaning sound, was added. Of twenty-eight children who had shown no fear before when exposed to the Strange Person situation, one showed fear as the Strange Person stood up and one other seemed afraid as soon as she caught sight of the strange person, before she had a chance to stand up.* The other twenty-six behaved as before, showing no definite signs of fear. The Loud Sound was sounded continuously, as described above, for thirty-five children. It should

* It should be mentioned here that this movement was not considered sudden enough to startle in itself, but just enough to force the child to look at the Strange Person and possibly make her seem somewhat more definitely an obstacle between the child and the toy.

be stated here that this continuous noise was extremely unpleasant, almost painful, to the two adults present. However, of the twenty-eight children who had shown no fear of the loud sound before only three appeared to be afraid at this time. The remaining twenty-five entered behind the screen to investigate and approached the source of this almost deafening noise without any apparent disturbance. Of the seven children who had been fearful before only four showed fear at this time.

Although it is realized that the data presented here are rather meager and offer no definite conclusions, still some inferences suggest themselves. It is noteworthy that the only variation in the experimental situations which caused any appreciable increase in fear behavior was the addition to the situation of an entirely new element. The Dark Room situation, to which was added the new element of a groaning noise issuing from the dark, caused fear in fourteen children, comprising 78 per cent of the eighteen children who before had shown no fear of the dark in itself,* while increasing or intensifying the fear stimulus, as occurred in the case of the Falling Boards and the Loud Sound, resulted in little apparent increase in fear behavior. The movement of the Strange Person, which definitely attracted the children's attention to her, also seemed to have but little effect.

These figures can offer no definite explanation why the addition of this new element to the Dark Room situation caused fear in a relatively large number of children who had shown no fear of the dark itself. There are two suggestions, however, that might be offered as possible explanations. One, that the groaning sound might be an effective fear stimulus in itself and that the fear behavior observed had no relation to the dark, but was a response to the sound alone. On the other hand, the groaning sound may have added an element of the mysterious and the uncanny to the dark. These two elements that might be ineffective in causing fear by themselves when combined created an effect that aroused fear. This point suggests the need of further investigation.

*Of these fourteen children only three had previously shown fear of the Loud Sound. This indicates that it was not the sound alone which caused the fear of the dark plus groaning sound.

CHAPTER XII

AN ANALYSIS OF THE BEHAVIOR EXHIBITED BY THE CHILDREN IN RESPONSE TO THE EXPERIMENTAL FEAR SITUATIONS

THE method used for recording the responses of the subjects in the various experimental fear situations has already been described in a previous chapter. It has been stated that this method of recording had, of necessity, to be limited in such a way that it was impossible to record all the behavior which occurred, but check lists of behavior items for each situation, selected in a manner previously described, were used in recording the responses to the fear situations. An analysis of the various responses thus recorded is set forth in Table XIX. This table groups the various behavior items under the categories in which they occurred. The definition of each category is given together with examples of the behavior items. There is necessarily some overlapping here, for some of the behavior items were such that they might occur under one of several categories, depending upon the outcome of the experimental situation.

It was believed that to classify the responses in this manner, taking into account the final result of the experiment, as the various categories do, would be of greater value than simply to make a tally of the number of children who, for instance, reached for the observer, or refused to enter, or withdrew from the situation. For it frequently happened that a child made an initial refusal to approach the fear situation, but then finally entered the situation without being accompanied or aided by the observer (category 2b). Another child, on the other hand, might make the same type of refusal and then continue to refuse until the observer offered to aid or accompany him (category 3). In a third case a child might make a similar refusal and continue to

TABLE XIX
Relative Frequency of Children at Yearly Age Levels Whose Behavior Was Included in the Various Categories
in Each Experimental Fear Situation

Situation	Category 1 <i>Performs Without Hesitation:</i> There is no intervening behavior between the time when the child appears to understand the directions and his movements toward and final reaching of the goal.					Category 2a <i>Finally Performs Alone:</i> There is some intervening behavior between the time when the child appears to understand the directions and his movements toward and final reaching of the goal but he finally succeeds in performing without help. Examples: reaches toward observer; walks slowly, carefully; stops, stands at door; enters part way into room and stops; verbal protest (only one); etc.					Category 2b <i>Finally Performs Alone:</i> The same as 2a. In this category, as distinguished from 2a, the intervening behavior was considered to be more indicative of fear and apprehension. Examples: stands on or near board but will not cross; enters part way (dark room) and comes out again; when sees strange person draws back toward door; attempts to withdraw from situation; verbal protest (at least 2); etc.					Category 3 <i>Finally Performs When Accompanied or Aided by Observer:</i> Child has signified refusal to perform by withdrawing from situation, verbal protest, etc. Observer then offers either to accompany child or to enter into situation first. The child finally performs with observer. Examples: will not approach doorway when urged; walks, pulls, runs away; attempts to leave room; will not approach dog when urged; etc.					Category 4 <i>Complete Refusal to Perform:</i> Child has signified refusal to perform and his manner of refusal recorded. Observer offers to accompany child or enter into situation first. Child still refuses to enter into fear situation. Examples: attempts to leave room; stands at doorway but will not enter when urged; will not approach dog when urged; makes verbal protest, excuse, etc.				
	24- 35	36- 47	48- 59	60- 71		24- 35	36- 47	48- 59	60- 71		24- 35	36- 47	48- 59	60- 71		24- 35	36- 47	48- 59	60- 71		24- 35	36- 47	48- 59	60- 71	
I. Being Left Alone	81.8	77.8	92.9	91.7		0	0	0	0		6.1	6.7	0	8.3		0	0	0	0		12.1	15.6	7.1	0	
II. Falling Boards	51.5	68.9	64.3	66.7		12.1	13.3	27.4	16.7		12.1	8.9	14.3	16.7		12.1	12.1	2.2	0		12.1	2.2	0	0	
III. Dark Room	12.5	15.6	21.4	46.2		28.1	22.2	35.7	30.8		12.5	11.1	7.1	23.1		12.5	48.9	35.7	0		3.1	2.2	0	0	
IV. Strange Person	40.6	53.3	50.0	46.2		18.8	11.1	21.4	30.8		9.4	13.3	21.4	23.1		18.8	13.3	7.1	0		12.5	8.9	0	0	
V. High Boards	22.6	37.8	78.6	61.5		22.6	13.3	14.3	23.1		19.4	13.3	0	16.7		16.1	31.1	7.0	0		10.4	4.4	0	0	
VI. Loud Sound	71.0	73.3	85.7	92.3		6.5	4.4	0	7.7		0	2.2	0	0		16.1	15.6	14.3	0		6.5	4.4	0	0	
VII. Snake	52.2	41.7	35.7	69.2		13.0	0	14.3	0		0	2.8	7.1	0		4.3	19.4	14.3	30.8		30.4	36.1	28.6	0	
VIII. Large Dog	23.8	28.6	57.1	—		0	0	0	—		14.3	28.6	0	—		28.6	28.6	14.3	—		33.3	14.3	28.6	0	
Total	45.3	50.9	61.0	67.4		13.1	8.7	14.3	15.7		9.3	10.2	6.7	12.4		17.4	20.1	11.4	4.5		14.8	10.2	6.7	0	

PER CENT OF CHILDREN STUDIED WHOSE BEHAVIOR WAS INCLUDED IN EACH CATEGORY ACCORDING TO AGE GROUP

refuse to enter the fear situation even after the observer's offer of help or aid (category 4). Therefore, these three similar refusals to enter a certain fear situation would each have quite a different significance when the final outcome was taken into account. Because of this fact a tally of the number of children who refused to enter a certain fear situation, which omitted to take into account the outcome of the situation, would mean very little. However, when the various behavior items or responses are tallied under the various categories in which they occurred, they give a much more significant picture of the children's responses to the experimental fear situations.

Table XIX is to be read in this way. In the Dark Room situation, for instance, 12.5 per cent of the children aged 24-35 months who were studied in this situation exhibited behavior which was included under category 1; 28.1 per cent of the children studied in this age group exhibited behavior included under category 2; the behavior of 12.5 per cent was included under category 2b, 43.8 per cent in category 3, and 3.1 per cent in category 4.

Some comparisons can be made of those responses which occurred under categories 3 and 4. Both of these categories were considered to include behavior which definitely indicated fear. Category 4, however, which means that the child refused to enter the situation even accompanied or aided by the observer, appears to indicate a greater degree of fear than category 3. It is interesting to note here that the last figures in Table XIX, which give the total percentage of responses to all the situations show that the children of the youngest age group, 24-35 months, had the largest percentage of responses classified under category 4, namely 14.8 per cent. The next age group, 36-47 months, had 10.2 per cent of their responses in this category, and these figures continue to decline in the two following age groups. This is consistent with the former findings that the total amount of fear (when fear was defined as behavior classified under categories 3 and 4) exhibited in these situations declined with age. This finding also indicates that the younger children not only showed more fear behavior than the older children, but that their fear was

more intense, in that more of them completely refused to participate in any way in the fear situations. The table also shows that, in almost every age group, the responses to the Large Dog and the Snake were more frequently classified under category 4 than category 3. This would indicate that these two situations called forth a more intense fear response than the other situations, since the other situations show a relatively greater number of responses classified under category 3 than under category 4.* The table shows in the Total column under category 1 that there is a consistent increase with age in the relative frequency of children who entered the fear situations without any sign of hesitation or a complete absence of any behavior indicating even apprehension or caution. The percentage of children whose responses were included under categories 2 and 2b does not indicate anything of particular significance. The Total shows that there is a slightly larger proportion of children in 3 out of 4 age groups, whose behavior was classified under category 2a than under category 2b. This would suggest that there was a relatively small amount of intervening behavior which could be considered as indicating apprehension (the items classified under category 2b were chosen because they were considered to indicate some degree of apprehension) while a larger amount of such intervening behavior appeared to be simply temporary hesitation, or the like.

The fact that in all the situations except the Large Dog and the Snake there was a larger percentage of children whose behavior was classified under category 3 than under category 4 suggests that, even though a child was afraid of one or more situations and indicated his fear by refusal to enter, the observer's offer to accompany or aid the child affected the fear-provoking element in the situation so that the child was willing to participate when accompanied by the observer. That is, a relatively small number of children continued to refuse to enter the situations when they no longer had to go alone or unaided. Only the Large Dog and the Snake continued to be, in a large number of cases, just as fear-provoking after the observer had offered her aid.

* Being Alone is an exception to this statement, but this situation was scored in such a way that it could be classified only under category 1, 2b or 4.

The language responses elicited by these various fear situations appeared to be significant in several respects. A preliminary survey of the language recorded on the record blanks suggested that language appeared more frequently on those records where the subject had shown fear of the situation. Therefore a tally was made of every record on which language appeared, according to whether the child showed fear behavior (categories 3 or 4) or did not show fear (categories 1 and 2). Table XX shows the number and percentage of children who responded to the various experimental fear situations with language, grouped at yearly age levels and classified according to whether or not fear was shown.

This table shows that in every situation and at every age level* the number of children who used language when they were fearful (category 3 and 4) was relatively much greater than the number of children who used language when they were not afraid (category 1 and 2). The children who showed fear in the various situations used language to express their fear to a great extent. 71.5 per cent of the children aged 24-35 months who were fearful also used language, while only 19 per cent who did not show fear used language; 86.1 per cent of the children aged 36-41 months who were fearful used language, while only 33.5 per cent who were unafraid used language; 100 per cent of those children whose age ranged from 48-59 months and who showed fear also used language, while language was used by only 20.9 per cent of those who were unafraid; 75 per cent of the children in the oldest age group whose responses were classified under categories 3 and 4 used language, while only 17.6 per cent of those whose responses were included under categories 1 and 2 used language. The total figures show that 81.5 per cent of the children who showed fear, in all the situations taken together, used language, while only 25 per cent of those children who did not appear to be afraid used language. It is interesting to note that the Large Dog and the Snake called for the relatively greatest amount of language and the Dark Room also elicited a large number of

*At the 60-71 month level in seven of the eight situations there were no children who showed fear.

TABLE XX

Number and Percentage of Children Who Responded to the Various Experimental Fear Situations with Language,
Grouped at Yearly Age Levels and Classified as to Whether or Not Fear Occurred

Age	NUMBER AND PER CENT OF CHILDREN WHO USED LANGUAGE IN RESPONSE TO THE VARIOUS FEAR SITUATIONS WHOSE BEHAVIOR WAS CLASSIFIED UNDER CATEGORIES 1 AND 2									NUMBER AND PER CENT OF CHILDREN WHO USED LANGUAGE IN RESPONSE TO THE VARIOUS FEAR SITUATIONS WHOSE BEHAVIOR WAS CLASSIFIED UNDER CATEGORIES 3 AND 4								
	Alone	Fall- ing	Dark	Strange	High Boards	Sound	Dog	Snake	Total	Alone	Fall- ing	Dark	Strange	High Boards	Sound	Dog	Snake	Total
<i>24-35</i>																		
Number of Children Studied	29	25	17	22	20	24	8	15	160	4	8	15	10	11	7	13	8	76
Number of Children Who Used Language	1	6	5	1	1	8	5	3	30	1	5	12	6	7	3	12	8	54
Per Cent of Children Who Used Language	3.5	24.0	29.4	4.5	5.0	33.3	62.5	20.0	10.0	25.0	62.5	80.0	60.0	63.6	42.9	92.3	100	71.5
<i>36-41</i>																		
Number of Children Studied	38	41	22	35	29	36	16	16	233	7	4	23	10	16	9	12	20	101
Number of Children Who Used Language	11	9	11	7	6	14	13	7	78	4	2	22	8	13	7	12	19	87
Per Cent of Children Who Used Language	28.9	22.0	50.0	20.0	20.7	38.9	81.3	43.8	33.5	57.1	50.0	95.7	80.0	81.3	77.8	100	95.0	86.1
<i>48-50</i>																		
Number of Children Studied	13	14	9	13	13	12	4	8	86	1	—	5	1	1	2	3	6	19
Number of Children Who Used Language	0	1	4	1	0	3	2	7	18	1	—	5	1	1	2	3	6	19
Per Cent of Children Who Used Language	0	7.1	44.4	7.7	0	25.0	50.0	87.5	20.9	100	—	100	100	100	100	100	100	100
<i>60-71</i>																		
Number of Children Studied	12	12	13	13	13	13	—	9	85	0	0	0	0	0	0	—	4	4
Number of Children Who Used Language	0	0	4	3	1	1	—	6	15	—	—	—	—	—	—	—	3	3
Per Cent of Children Who Used Language	0	0	30.8	23.1	7.7	7.7	—	66.7	17.6	—	—	—	—	—	—	—	75.0	75.0
<i>Total</i>																		
Number of Children Studied	92	92	61	83	75	85	28	48	564	12	12	43	21	28	18	28	38	200
Number of Children Who Used Language	12	16	24	12	8	26	20	23	141	6	7	39	15	21	12	27	36	163
Per Cent of Children Who Used Language	13.0	17.4	39.3	14.5	10.7	30.6	71.4	47.9	25.0	50.0	58.3	90.7	71.4	75.0	66.7	96.4	94.7	81.5

language responses. The results given in Table V showed that these three situations were also the most potent in eliciting a fear response.

The following pages give examples of the language which occurred in response to the various situations. The first group of examples includes the verbal responses which occurred in situations where the children were not, apparently, afraid (categories 1 and 2). The second group of examples includes the language elicited in response to situations in which the children showed fear (categories 3 and 4). When the children were exposed to situations in which they were not afraid they used language largely in discussing the situation or commenting upon it to the experimenter in a conversational way. However, there were other language responses, occurring under category 2, which were definite verbal protests, excuses, and demands for aid. Such responses are indicated by a star. The children who were fearful and who used language used it to refuse or protest against the situation, to ask for aid, to offer an excuse, or sometimes actually to state or describe their fear. There were also some language responses which might be termed evasive. That is, when the experimenter requested the child to enter a certain fear situation he seemed to attempt to evade the issue, as it were, by talking about something entirely irrelevant, or suggesting that he wanted to do something else. These responses are listed under the situations in which they occurred.

Examples of Language Which Occurred in Response to Situations
in Which the Children Had Not Shown Fear

Categories 1 and 2

Being Left Alone

Category 1

"I don't hear you."

"Get the steam roller. Get the steam roller."

"Come see, come see this." "You can't see it."

(When experimenter returned) "I didn't cry. See, I took that (toy) and put it over there, all by myself."

"I'll wait for you."

Category 2

"I got to go."

"I go with you."

Falling Boards

Category 1

"Bumpty bump, bumpty bump" (as board falls).

"I'm going to run down."

Category 2

"I fall, I fall."

"Wouldn't fall down this time."

"This is not a tippy board. There is a block underneath there."

"This is a swell room."

"It's going to tip again."

Dark Room

Category 1

"No more ballie."

Category 2

*"Can't get it, can't. The light is out. You get it."

*"It's all gone, it's all gone now. It's lost."

*"It's dark in there. You go with me. It's too dark in there."

*"No, you go. There's a dark place."

*"Too dark, where is it?"

*"You go with me. You better turn the lights on."

"It will come back."

*"Why did you throw it in there?" "I can't see it." "I can't find it."

"It's dark in there. Are we going back to the nursery? Are you going to get someone else?"

"I'll close the door. Let's close the door so it won't roll in again."

Strange Person

Category 1

"What are her?" "Look at her."

"Who was that in there?" "What was she doing anyway?"

Category 2

"What's that?" "Where did that strange lady go?"

"Who's that? Who?"

"What's the old lady doing in there?" "There's an old lady in there now."

High Boards

Category 1

(5 feet) "Look how far it is." "I wouldn't like to be way up there."

(6 feet) "Now where are you putting it—way up there?" "Would I like to go up there? I would not!"

Category 2

*(6 feet) "I don't want to fall." "I want to get down." "I want to put it down so I could pick it up and I want to get down." "I don't want to stand up again."

(5 feet) "Perhaps I fell down."

*(4 feet) "No, I want put down. I don't want to stand up."

*(5 feet) "It's so high." "It's too high."

Loud Sound

Category 1

"What made that noise?"

"What's that? Well, who made that noise?"

"Something fell down."

Snake

Category 1

"I pat him." "Yes, I would."

"Nake, nake! Nice nake."

*"Yes, all right." "No! you cover it up."

*"But I don't like him to curl up like that and make a noise."

"A snake. He's sleeping! He's moving!"

"What is that? Could you take it out? What's the water for? Why doesn't he drink now?"

"It's a nice snake, it's nice. What is it made of?"

"Will he move? He's nice. Why cover him up?"

Category 2

"He is going to move. Why is that snake in there? Why is the snake covered up?"

*"Is it a real snake?" "But I wouldn't like to touch it if it's a real snake." "Can it bite?" "Now I'll reach in and get the little man (a toy) if it doesn't bite."

Large Dog

Category 1

"What, a dog?"

"A dog, don't make him cry."

"A nice wolf, a nice wolf."

"Yes, is he coming back again?" "I'd like to see the other dog."

"I have a bigger one. I have a bigger one. I have a big bull dog—a big schnauzer."

"I want to hold it."

Category 2

"Yes." "Will he bite me?"

"She has a dog. It's a nice doggie. He wants to eat something."

"Here comes a very big dog." "She doesn't bite?"

"Is she a mamma dog?" "But she is big like a father dog."

Examples of Language Which Occurred in Response to Situations
in Which the Children Showed Fear

Categories 3 and 4

Falling Boards

Category 4

"I want to get out." "No." "I want to sit down." "I want to play now."

"Let's sit on the chair."

Dark Room

Category 3

"It's (the ball) gone." "No, it's gone."

"You get it." "It's dark there."

"Where it (the ball) went?" "Me 'fraid to go in there." "Me 'fraid dark." "Me don't know where it is." "It's so dark."

"It's dark in there." "You go with me." "It's too dark in there."

"You come where it goes." "You come in with me."

"Are you going to put on the light?"

"No, a bogey man in there."

Strange Person

Category 3

"Me scare." "Who's that?" "Me scare." "That's a lady?"

"Get it (the toy)." "This lady go 'way." "I want this lady to go away." "She's gone." Cries.

"You get it." "Let's all go in."

Category 4

"No more games." "Upstairs again."

High Boards

Category 3

(4 feet) "No! I might fall."

(3 feet) "No, you better hold my hand."

(2 feet) "I can walk across all by myself now."

Category 3

- (4 feet) "I can't." "I'm afraid to walk across." "I want to come down."
 (4 feet) "Crawl across." (Would not walk.)
 (5 feet) "Crawl across." (Would not walk.)

Category 4

- (4 feet) "Take me down." "No, no."
 (4 feet) "Want to get down." "No, no."
 (3 feet) "No." "Get down." Cries.
 (2 feet) "Now I can do it."

Category 3

- (6 feet) "We won't be able to get the other toys." "No, I might fall."
 "I don't want that so high." "I like it to be lower."

Loud Sound

Category 3

- "What made the noise?" "I don't want to see." "I don't want to see any more."

Category 4

- "Close the door. I don't want to hear that noise."

Snake

Category 3

- "Is it a he or a she?" "No!" "I don't want to."

Category 4

- "He'll bite." "I can't." "No, I can't."
 "Cover it up. Close it up." "He might bite me." "I don't want to do it." "No, no."
 "My mommy said not to take it." "I can't." "My mommy said not to."

Large Dog

Category 3

- As dog enters says, "I don't want that doggie in here." At request to pat, "No, no, no."

- "Why did she bring in the dog?" "Will he bite?"

- "I'm afraid he'll bark if I pat him." "I'm afraid of dogs." "Why is he so big?" "I'm afraid of dogs."

- "Go away, doggie, go away." "I already patted the dog." (The child had come within a foot but had not patted him.) "I'm having a fine time."

Category 4

- "No, he must bite." "He'll bite." "He'll bite Lucy."

"A nice doggie." "Don't like to pat him." "Don't want to pat him."
"Tinkie's a nice dog." "A nice dog."

Language Responses Which Appeared to Indicate an Attempt at
Evasion

High Boards. Boy, age 42 months.

4 feet; category 3

"I want to go like this." Child crawled across board instead of walking.

5 feet; category 3

"I want to go like this." Child crawled across.

6 feet; category 4

As soon as the child saw the boards being lifted to 6 feet he said, "I too heavy to go up there. I want to play with the other toys."

Large Dog. Boy, age 48 months. Category 3.

As soon as the dog entered the room the child said, "I'm not afraid of dog," "I'm not afraid of big dog." He had completed his manipulation of the toy, but when the observer requested him to pat the dog he said, "I don't want to," and started to play with the toy again. The experimenter urged and he said, "What will he do with the table?" Each time the experimenter urged him to pat the dog he began to talk about the toy. "See what I'm making," etc. Finally the experimenter removed the toy and the child patted the dog after the observer had done so first.

Girl, age 47 months. Category 3.

As the dog entered the room she said, "Where was he?" When the experimenter requested her to pat the dog she approached within a foot of it and stopped, saying, "I like teeny, weeny dogs. I like big dogs too." The experimenter urged and she then said, "It looks like a nice colored dog," but did not pat the dog. As the experimenter urged again she said, "I don't like brown," and made several other comments about the color of the dog. She continued to refuse to pat the dog until the experimenter did so first.

Dark Room. Girl, age 42 months. Category 3.

When the experimenter requested child to get the ball, she said, "It's too dark." "Don't you see it's too dark." Then, "I can't see it" (the ball). She then withdrew from the doorway and walked over to some furniture in the corner of the room, saying, "What are those?" and continued to talk about the furniture. She continued to refuse to enter the dark room until the observer offered to accompany her.

Boy, age 49 months. Category 3.

Child at first refused to approach entrance of dark room, said, "I don't want to get the ball." "What's this for?" "I close the door," and he closed the door of the dark room. He opened it again at the experimenter's request. Said, "It's dark in there. I can't see it." "It's too dark down there but I see some lights we can turn on. Why don't you turn on the lights?" He then left the doorway and walked over to some furniture and said, "How did that happen up there?" He then continued to talk about an old birdcage he had found, etc. He continued to refuse to approach or enter the dark room until the experimenter offered to go in with him.

CHAPTER XIII

AN ANALYSIS OF CASES OF EXTREME INDIVIDUAL DIFFERENCES IN FEAR BEHAVIOR APPEARING IN THE EXPERIMENTAL FEAR SITUATIONS

THE results of this study presented so far indicate that there are at least two factors, namely age and sex, which seem to have a relationship to the fear behavior shown in the experimental fear situations. However, although the girls as a whole seemed to evidence more fear in these situations than the boys, and although the children over 60 months of age seemed to show much less fear than those younger, still these two factors do not account for all the cases of fear shown in these situations. There are many cases where two children of the same age and sex showed a very wide difference in the total number of situations feared. Therefore there are undoubtedly various other factors which cause individual differences in fear behavior and which operate in these cases.

Although the material assembled in this study offers no quantitative data which might aid in discovering such factors, there is some material available in the developmental records of these children which might be of use here. In order to eliminate the influence of age and sex an attempt was made to select pairs of children of the same age and sex whose fear scores were very different. As an example, two boys were selected whose ages, at the time of the first fear experiment, were both 24 months, and whose fear scores on eight situations were 18 and 4 respectively. Since the average fear score of the group on eight situations was 11.3 it can be seen that these two children were much below the average and much above the average in respect to the amount of fear they exhibited in the experimental fear situations. The aim was to compare various items found in the

developmental records of such pairs of children to discover whether these items showed any differences that might be significant. All the children selected in this way had to be, of necessity, from the private nursery school since there were no such developmental records available for the day nursery children.

These developmental records consist of descriptive summaries of the child's progress in the nursery school group recorded by the nursery school teachers; information blanks filled out by the parents consisting of family history, the child's early development, description of home environment, etc.; the reports of the doctor, nurse, and nutritionist concerning the child's physical condition, etc., at various intervals; reports of the case study committee which include a description of any problems concerning the child which may have arisen; and reports of the nursery school teacher's visits to the child's home. If the child being studied had attended the nursery school over a period of several years the developmental records used here were those which covered the period of several months before, during, or just after the child had been exposed to the experimental fear situations, unless otherwise stated. An attempt was made to select from these records certain significant items on which information could be obtained for each child, so that the items selected would be the same for each child and therefore comparable. These reports on four pairs of children of the same age and sex are presented below and in the pages that follow.

I. Two Boys, Age 24 Months

A. *Harry A.*

Fear Score: 4

Entered the nursery school Sept. 1933

Exposed to experimental fear situations Nov. 1933

Age at time of experiments: 24 months

1. *Descriptive Picture of Child*, Oct. 1933

Harry is a short, stocky, attractive little boy. He is outstanding for the splendid use of his body and his good muscular control. He is not timid or shy, protects his own rights, and seldom cries. He is a happy and well-adjusted child, usually going about his business unconscious of those who are around him.

2. *General Response to Environment*, Oct. 1933

a. Adults: Harry is independent of adult activity. He finds his own play interests. Does not seek adult approval.

b. Children: He usually plays alone. He protects his own rights.

c. Material: He is very alert, and interested in all types of equipment and material and uses them well.

3. *Outstanding Qualities*

a. Security. Harry is apparently very secure in any situation in which he is placed. He apparently has no inhibitions or fears; he enters whole-heartedly into all new situations.

4. *Physical Condition*, Nov. 1933

General condition good. Improvement in color and nutrition since admission.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 131.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: A crowded home. Family consists of grandfather, grandmother, father, mother, two children and uncle. A six-room apartment and rooms are small. Sometimes friction because grandparents have other ideas about obedience. Father and mother temperamentally congenial.

Mother's attitude toward child: Very fond but has not the patience of the father.

Father's attitude toward child: Very fond but very sensible. Has infinite patience and can always see child's point of view.

b. As reported by nursery school teachers.

Home atmosphere: Home crowded but atmosphere pleasant. Three men wage earners in family all out of work.

Mother's attitude toward child: Both parents treat him, not as a baby, but as an independent little boy. They are both unusually interested and coöperative. The mother seems somewhat hurried and harassed.

Father's attitude toward child: He is very calm and patient with Harry.

B. *Irving C.*

Fear Score: 18

Entered the nursery school Sept. 1933

Exposed to experimental fear situations Nov. 1933

Age at time of experiments: 24 months

1. *Descriptive Picture of Child*, Oct. 1933

Irving is very friendly to adults, but does not cling to them. He has a very unsteady gait and raises his arms to balance himself when walking. He cries loudly and resists when he does not understand what is wanted of him, but is friendly and coöperative when approached slowly. He is easily upset emotionally, cries lustily, and has no technique for defending himself.

2. *General Response to Environment*, Oct. 1933

a. Adults: Irving is friendly toward adults but does not seek attention. He is dependent upon adults for much help as he is not used to doing things for himself.

b. Children: He is very friendly to children. He does not play with them but plays close to them.

c. Material: He is interested in all materials and equipment and has experimented with much of it.

3. *Outstanding Qualities*

a. Friendliness.

b. Crying; loud crying when adult insists on his carrying out routine procedures.

c. Difficulty in walking, extremely knock-kneed and walks on inside of his feet. Muscle coördination very underdeveloped.

4. *Physical Condition*, Nov. 3, 1933

Only fair, tissues less firm and color less good since admission.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 104.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Very congenial. Irving is very much beloved by his brother and two sisters.

Mother's attitude toward child: No information.

Father's attitude toward child: Father is deceased.

b. As reported by nursery school teachers.

Home atmosphere: Irving gets little walking exercise at home, they pick him up and carry him. He does not eat well at home and this is becoming a definite problem. He gets very little outdoor play.

Mother's attitude toward child: Mother is reported to be very emotional about Irving. She cried when talking about him. Carries out most of the school's recommendations, however.

II. Two Boys, Age 41 Months

A. *Lewis S.*

Fear Score: 3

Entered nursery school July 1933

Exposed to experimental fear situations Nov. 1933

Age at time of experiments: 41 months

1. *Descriptive Picture of Child*, Oct. 1933

Lewis is a super-active child, pale and undernourished. If approached abruptly and told to do something he will resist and be very negativistic, but the right approach makes him quite compliant. He is friendly and willing to be helped by students as well as teacher.

2. *General Response to Environment*

a. Adults: In routine situations Lewis needs adult help, though he doesn't ask for it. He is independent of adults for amusement. He finds play interests without any suggestions.

b. Children: He plays with one or more children and seems to enjoy them. He protects his toys from others and doesn't share.

c. Material: Lewis plays purposefully with all types of toys. His play is constructive and imaginative.

3. *Outstanding Qualities*

a. He has a sense of humor.

b. He is negativistic.

c. He is extremely active.

4. *Physical Condition*, Nov. 1933

General condition only fair. He is considerably undernourished.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 120.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Pleasant, peaceful.

Mother's attitude toward child: Affectionate and proud of child, interested in his development.

Father's attitude toward child: Affectionate and proud of child, interested in his development.

b. As reported by nursery school teachers.

Home atmosphere: Rather gloomy, dark apartment. Household rather upset, two children running around wild. Routine of home not of kind to help stabilize the children. Maternal grandmother lives with family and criticizes her daughter's way of handling the children.

Mother's attitude toward child: One of real affection but not great understanding of child's mental and physical needs.

Father's attitude toward child: No information.

B. Karl H.

Fear score: 16

Entered nursery school Feb. 1932

Exposed to experimental fear situations March 1933

Age at time of experiments: 41 months

1. *Descriptive Picture of Child*

May 1932: Friendly with children, but timid. Is very sensitive to noises and new situations. Frequently comes to adult for security.

October 1932: Karl is very insecure and clings to adults. Does not play much with other children, is timid.

February 1933: Karl now enters group play spontaneously. He becomes easily excited in play and enjoys romping with other children. His emotional stability has improved, but his excitability probably causes some tension, as he sometimes wets his clothes during play.

2. *General Response to Environment*, Feb. 1933

a. Adults: Karl is quite free from adults now and aware of group.

b. Children: He joins in active play with other children.

c. Material: His play interests are wide and were readily expressed after his insecurity was somewhat conquered.

3. *Outstanding Qualities*

a. Use of imagination in play.

b. His excitability in play is outstanding and seems to have something of an hysterical quality.

c. Social ability, when he feels secure.

4. *Physical Condition*, April 1933

General condition excellent. Pediatrician had conference with mother about child's tendency to clench his fists and become tense and quivering whenever excited.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 125.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Happy. Parents very fond of each other and of child. Child wanted even though he was a financial strain.

Mother's attitude toward child: Very fond of child. Eager to do the best thing for him.

Father's attitude toward child: Very fond of child. Eager to try new ideas of training.

b. As reported by nursery school teachers.

Home atmosphere: Some atmosphere of striving in home, of trying to push ahead. Child shows emotional instability at home, gets very excited when at play, almost hysterical.

Mother's attitude toward child: Mother is always coöperative. She carries out the school's recommendations faithfully. She appears to feel she has sacrificed her career for the child.

Father's attitude toward child: No information.

III. Two Girls, Age 40 and 41 Months

A. *Patience G.*

Fear Score: 6

Entered nursery school Oct. 1933

Exposed to experimental fear situations: Nov. 1933

Age at time of experiments: 41 months

1. *Descriptive Picture of Child*, Oct. 1933

Patience is a robust, energetic, little girl with a rather sullen expression which will suddenly flash into a charming smile when things please her. She meets unpleasant things with hard crying and frantic refusals which, after a few repetitions with no success, finally cease. She fights rather than accepts, but always with an eye on the teacher to see the effect. Her progress in adjustment is very marked and points to a more happy future.

2. *General Response to Environment*, Oct. 1933

a. Adults: At first Patience desired adult attention, and followed adults around. This behavior lasted about 3 weeks. She now has the initiative to find things to play with without adult suggestion.

b. Children: Patience enjoys group activities. She both watches and joins in play with other children. She is not shy and talks and plays freely with any child.

c. Material: She shows a definite preference for large muscle activities such as swinging, sliding, climbing on the jungle gym, or on the rocking board.

3. *Outstanding Qualities*

a. Robust energy and good muscle coördination.

b. Sudden changes in mood.

c. Friendliness.

4. *Physical Condition*, Sept. 1933

General physical condition excellent.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 108.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: No information given.

Mother's attitude toward child: She is very fond of child, enjoys her, and wants to make her a "good human being."

Father's attitude: Father and mother are divorced and father seldom sees child.

b. As reported by nursery school teachers.

Home atmosphere: Recent changes in home arrangements showed an attempt to carry out recommendations, and an appreciation of the child's needs and a definite planning for them.

Mother's attitude toward child: Mother seems proud of child's accomplishments and is distressed when Patience does not show them. She is very coöperative, however, and open to suggestions. She is too much inclined to nag and discipline the child though.

Father's attitude toward child: No information.

B. *Sally T.*

Fear Score: 17

Entered nursery school Oct. 1931

Exposed to experimental fear situations March 1933

Age at time of experiments: 40 months

1. *Descriptive Picture of Child*

October 1931: Sally is timid and retiring, and becomes tense when attention is directed toward her. She sometimes cries in a sobbing manner which we believe is due to timidity and resulting tension.

February 1933: Sally plays with the children now more than she follows adults. Her timidity is disappearing, especially in play with other children. Since the beginning of February she has begun to assert herself, but her feelings seem to be very easily hurt.

May 1933: Sally is a pale, slender, medium blonde child. She is inclined to be diffident, especially when strangers approach, but when secure in her surroundings she will occasionally show assertive and aggressive traits. She is precise and orderly.

2. *General Response to Environment, May 1933*

a. Adults: Sally is diffident with adults. She shows this by hanging her head, holding to skirts of adult. She has a tendency to be negativistic.

b. Children: She finds her own play interests and has a rather neutral attitude toward other children.

c. Material: Sally shows an energetic drive and attack on materials whenever they interest her. She is independent and persistent in her play and shows a long concentration span.

3. *Outstanding Qualities*

a. Perseverance, makes effort to overcome difficulties without asking for help.

b. Long attention span.

c. Good use of language.

4. *Physical Condition*, Jan. 1933

General physical condition only fair. Nutrition moderately good.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 141.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Quiet and pleasant. Mother reports that parents try to give child as much freedom as is compatible with comfortable living for the rest of the family.

Mother's attitude toward child: Interest and pleasure.

Father's attitude toward child: Great interest.

b. As reported by nursery school teachers.

Home atmosphere: Pleasant and quiet. The child's nurse tends to give her too much attention and to fuss over her eating and sleeping too much.

Mother's attitude toward child: Mother coöperates with the school and keeps fine home records. She is really interested in Sally's optimum development. Any information given by mother can be accepted as correct.

Father's attitude toward child: Coöperates with the school.

IV. Two Boys, Age 48 and 49 Months

A. MALCOLM D.

Fear Score: 5

Entered nursery school Oct. 1931

Exposed to experimental fear situations March 1933

Age at time of experiments: 48 months

1. *Descriptive Picture of Child*

October 1931: Malcolm was somewhat shy the first few days he attended nursery school, but he is now very friendly toward everyone. He is usually very coöperative and reasonable, though at times he becomes negativistic. He frequently leads in play activities and is quite capable of protecting his own rights. He uses all the equipment without fear and is very active.

May 1933: Malcolm is an attractive and appealing type of child who offers a friendly affection that gets attention and response from

both adults and children. He is well liked by the other children and is requested to join in their play. He is, as a whole, coöperative and responsive, but when his free activity is interfered with he sometimes becomes extremely negativistic and resentful. He is capable and responsible at most times.

2. *General Response to Environment*

a. Adults: He is friendly toward and desires attention from adults. He may, at times, be resistant and defiant.

b. Children: He seeks other children for playmates and shares willingly with them. He sometimes leads in silly play.

c. Material: He is much interested in all types of equipment, and particularly likes toys of a mechanical nature. His play is not inventive.

3. *Outstanding Qualities*

a. Good use of language.

b. Timidity, he easily becomes shy and has his feelings hurt.

c. Willingness to share.

d. Affectionate.

e. Self-conscious.

4. *Physical Condition*, March 1933

General physical condition excellent. Nutrition good.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 147.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Happy and secure.

Mother's attitude toward child: Affectionate and understanding.

Father's attitude toward child: Affectionate and understanding.

b. As reported by nursery school teachers.

Home atmosphere: There seems to be disorganization in the home and no definite routine.

Mother's attitude toward child: Mother seems to have no technique for handling children. She does not seem to have a happy relationship with Malcolm. She shows resistance towards the nursery school's suggestions.

Father's attitude toward child: Does not spend much time with child.

B. HUGH W.

Fear Score: 18

Entered nursery school Feb. 1932

Exposed to experimental fear situations April 1933

Age at time of experiments: 49 months

1. *Descriptive Picture of Child*

May 1932: Hugh seems timid and insecure socially although he is very much interested in other children. He is likely to cry hard when the other children are rough with him.

May 1933: Hugh is a tall, slender, sallow-looking child. He is shy and timid, but is quite friendly when he feels secure in his environment. His manner is retiring, and his timidity is often displayed by irrelevant activities.

2. *General Response to Environment*

a. Adults: He is dependent upon adults and asks for help when it is really not needed. He is usually friendly with one adult, but when he is in a group he is inclined to be shy and timid or silly.

b. Children: He is friendly with other children. When interested in playing in a small group he forgets his timidity. He is quick to copy the actions of other children.

c. Materials: His general timidity interferes with his best use of materials. He shows definite selection in his choice of materials.

3. *Outstanding Qualities*

a. Constructive use of materials.

b. Friendliness

c. Timidity and insecurity—hesitancy in being left alone even in well-lighted room.

4. *Physical Condition, May 1933*

General physical condition good, and nutrition moderately good.

5. *Intelligence*

I.Q. obtained by Minnesota Pre-School Scale, 119.

6. *Home Atmosphere and Parent Attitudes*

a. As reported by mother.

Home atmosphere: Consistent, steady, and happy for the child. Mother believes Hugh's insecurity is due to the fact that they were traveling most of last year.

Mother's attitude toward child: Both parents have tried to share in his care and in making decisions concerning his care and development.

Father's attitude toward child: No information.

b. As reported by nursery school teachers.

Home atmosphere: Pleasant and attractive home environment.

Mother's attitude toward child: Makes an attempt to try to sense child's needs. Has no techniques for playing with child.

Father's attitude toward child: Is quite strict and severe with Hugh. Has no techniques for joining in play with child. He is interested and tries to cooperate with most of the school's suggestions,

When the records of the four children who were unusually lacking in fear in the experimental fear situations are compared with the records of the children who were unusually fearful, there appear certain personality traits and descriptive terms which seem to distinguish these two groups to a certain extent. The fearful children were more frequently described as being dependent upon adults for help, as being easily upset emotionally, as showing timidity and shyness, as being unable to protect their rights on the playground from other children, and as appearing generally insecure. The least fearful children were more frequently described as independent of adult help, as having good muscular coördination, as being capable of protecting their own rights, and as appearing generally secure.

On the other hand, there are various items which might have been expected to differentiate these two groups which appear just as frequently among the most fearful children as among the least fearful. The fearful children were reported, by the doctor, to be in good physical condition almost as often as were the least fearful children. The home atmosphere of the least fearful children was described as unstable and lacking in routine and security just as frequently as that of the most fearful children. The mother's attitude toward the child was described as showing lack of understanding of the child's needs just as often for the least fearful children as for the most fearful. Although timidity and shyness were noted more frequently among the fearful children, yet one of the least fearful children was so described. Both groups of children were described as being generally friendly to and enjoying social contacts with other children.

This lack of the appearance of many distinguishing characteristics in the developmental histories and descriptive summaries of these fearful and non-fearful children perhaps indicates that the elements which contribute in causing such individual differences in fear behavior, as these eight cases illustrate, are quite intangible and not often expressed by the type of overt behavior which is easily observed and recognized.

CHAPTER XIV

SUMMARY AND CONCLUSIONS

THE aim of this study was to observe and record evidences of fear exhibited by young children under controlled experimental conditions. The subjects included 105 preschool children, 103 of whom were exposed to six situations, while 55 were exposed to eight situations. The results obtained from these observations were compared to data concerning the fears of these same children derived from other sources, as well as data obtained when several fear situations were repeated with variations. The relationship of these data to age, sex, intelligence, and socio-economic status was investigated, and an analysis was made of the various types of behavior exhibited, as well as a more intensive study of several individual cases.

METHOD AND PROCEDURE

1. This investigation employed eight experimental situations, representing events that often have been found to be effective in eliciting fear in young children. The experimental situations were presented under controlled conditions. The aim was not to frighten the child, but rather to allow him the choice between entering into the situation and withdrawing from it. The eight fear situations, briefly described, were as follows: I. Being Left Alone: the child was left alone in an unfamiliar room for two minutes. II. Falling Boards: the child was asked to walk a second time along an insecure platform consisting of a board raised two inches from the floor, one end of which had abruptly descended to the floor as the child stepped on it the first time. III. Dark Room: the child was requested to enter a dark room in search of a ball with which he and the experimenter had been playing and which the experimenter, seemingly inadver-

tently, had thrown into the dark room. IV. Strange Person: the child was requested to enter a room in which was seated a woman somewhat oddly dressed in a long gray coat, large black hat, and black veil that obscured her features. The child was asked to take toys from a box placed near this person. V. High Boards: the child was requested to walk along a board raised four feet from the ground to procure toys that were placed at the far end. If he did so the board was raised to a height of five feet, and then to six feet. If he refused the board was lowered to a height of three feet and then to two feet. VI. Loud Sound: the child was asked to investigate the source of a loud, sudden noise, made by striking an iron pipe with a hammer, and issuing from behind a screened-off corner of the laboratory. VII. Snake: the child was asked to reach for a toy located in a box in which was placed a small, but lively, snake. VIII. Large Dog: the child was requested to pat a large collie dog brought into the room on a leash.

In every situation standard directions were used by the experimenter. The situations were presented, with a few exceptions, in the order just given. In most of the cases the first four were presented in one day, the next two on the following day, and the remaining two about a month later.

SUBJECTS

2. The subjects were 105 children, 57 boys and 48 girls, with ages ranging from 24 to 71 months. Of these children 56 were attending a private nursery school, and 49 were attending a day nursery. All children of the two school groups participated; there was no selection of subjects from among those that were available.

METHOD OF RECORDING AND SCORING

3. The behavior of the subjects in the experimental fear situations was recorded by the experimenter. A prepared form was used for each situation which consisted of a list of a number of specific items of behavior. This form was prepared on the basis of a preliminary investigation of ten cases. It was used in the

manner of a check list while the experiment was in progress. The material recorded was not limited to the items on the check list. A separate record was made of the subject's language, and a description of any other behavior occurring before or after the experiment which appeared to be significant was also entered upon the record.

4. In recording behavior in this way the final result of each experiment represented one of four categories which were mutually exclusive. These are briefly defined as follows: category 1, the child enters the situation without hesitation; category 2, the child shows some intervening behavior between the time of the experimenter's request and his entering the situation (this category was divided into 2a and 2b, 2b representing behavior which appeared to indicate some degree of apprehension); category 3, the child refuses to enter the situation until aided or accompanied by the experimenter; category 4, the child completely refuses to enter the situation.

5. These four categories were used as a basis of quantitative scoring. Category 1 was assigned a score value of 0, category 2a was assigned a value of 1, category 2b a value of 2, category 3 a value of 3, and category 4 a value of 4. Therefore a score of 0 in any situation represented complete absence of any signs of fear, while a score of 4 represented the greatest amount of fear shown. In order to obtain a score for all the situations to which a subject was exposed, his scores on each situation were added together and this resulted in a cumulative score.

The behavior included in categories 3 and 4 was believed to be a definite indication of fear. Therefore the tabulation of the number of children who showed fear in any situation meant a tabulation of the number of children whose behavior was included in these categories.

THE RELIABILITY OF THE FINDINGS

6. The reliability of the records obtained during observations of children in these experimental fear situations was studied by means of two observers who took independent but simultaneous records. A minimum of twenty such records was taken in each

situation, and of as many different children. The four categories may be regarded as sufficiently reliable for the purposes of this study. The behavior included in categories 3 and 4, as contrasted with that of categories 1 and 2, was regarded as a very clear indication of the presence of fear. The agreement between observers in recording behavior in categories 1 and 2 as distinguished from categories 3 and 4, was 100 per cent. The agreement between observers, computed in terms of all four categories, was 91 per cent. The reliability of the method of scoring which is based on these four categories is, therefore, as reliable as the categories.

7. It is conceivable that the reliability of the data might be influenced by the factors of resistance to the experimenter's directions or negative conditioning toward the experimenter or the locale. However, there is evidence (presented on pp. 213-214) which indicates that this was not the case. It is also possible that the precautions taken to guard against resistance, and the like, may have caused some positive conditioning which may have resulted in the appearance of fewer cases of fear than would otherwise have occurred.

8. The consistency of the behavior observed in the experimental fear situations cannot be adequately measured by presenting the situations a second time. When a child had once met a given situation he undoubtedly would learn something about it which would affect his behavior to some extent when he was presented to the same situation a second time. Also his increase in age would affect the results of a situation presented for the second time after an interval of six or eight months. These factors would make it very difficult to interpret any changes in behavior which might be observed. However, sixteen subjects were exposed to seven fear situations a second time after intervals of time ranging from six to eight months. These sixteen subjects were assigned fear scores, in the manner described on page 204, for both sets of situations. When the scores obtained on the first presentation of the fear situations were correlated with the scores obtained on the second presentation the rank correlation between these two sets of scores was .55. This cor-

relation indicates a definite positive relationship between the behavior the children exhibited in seven fear situations on two different occasions, but, as noted above, it cannot be interpreted as a measure of reliability, because of the fact that a second presentation of the situations cannot be regarded as equivalent to an identical repetition of the initial test.

THE DEFINITION OF FEAR USED IN THIS STUDY

9. Fear was defined as that behavior which was included in categories 3 and 4 as described above; that is, either refusal to enter the situation unless accompanied or aided by the experimenter, or else complete refusal to enter the situation.

THE RELATIVE EFFECTIVENESS OF THE VARIOUS FEAR SITUATIONS IN AROUSING FEAR RESPONSES

10. Every one of the eight fear situations elicited at least some expressions of fear, as defined above. The animals, the large dog and the snake, were the most effective in causing fear.* The dark elicited the next largest number of fear responses. Next in the order of their effectiveness came situations representing height, a strange person, and a loud sound. The least effective were situations representing displacement or insecure footing, and being left alone.

INDIVIDUAL DIFFERENCES IN FREQUENCY OF FEAR RESPONSES

11. The range of the number of fears shown per child (situations in which fear was shown) by the 103 children who were exposed to the first 6 situations, namely: Being Left Alone, Falling Boards, Dark Room, Strange Person, High Boards, Loud Sound was 0 to 5. The average number of fears per child was 1.3.† Of the fifty-five children who were confronted with eight situations, the first six named above plus the Snake and the Large Dog, the range of fears per child was 0 to 7 and the average number of fears per child was 2.7.

*A small, lively dog and a horned toad were presented to a small number of cases at the beginning of the study. The dog caused fear in a large percentage of children, while little reaction was shown to the horned toad.

† This average is decidedly lowered by the fact that many situations elicited no fear at all after the age of 5 years.

12. The range of the fear scores of the 103 children, obtained by adding together the fear scores on the first six situations, was 0 to 19, the maximum score obtainable being 24. The average fear score for this group was $6.2 \pm .42$. The range of the fear scores of the fifty-five children who were tested in eight situations was 3 to 27, the maximum score obtainable being 32. The average fear score for this group was $11.3 \pm .73$.

AGE DIFFERENCES IN FEAR BEHAVIOR

13. There was a consistent decrease with age in the relative frequency of children who showed signs of fear in response to four of the experimental fear situations, namely, the Falling Boards, the Strange Person, the High Boards, and the Loud Sound. The relative frequency of children showing fear in response to the Large Dog decreased from the 24-35 months level to the 36-47 months level and remained the same at the 48-59 months level. There was an increase with age in the relative frequency of children showing fear of the Dark Room from the 24 to 35 month level to the 36 to 47 month level, and then a decrease at 48 to 59 months, with no fear at all shown at 60 to 71 months. Fear in response to being left alone showed a similar trend. There was an increase with age in relative frequency of fear in response to the Snake up to the 36 to 47 month level, and then a gradual decrease. The Snake was the only situation causing signs of fear in children aged 60 to 71 months.

The general decline with age in expressions of fear is shown by a correlation of $-.40 \pm .06$ between fear scores and age, based upon the responses of 103 children to 6 situations.

INTELLIGENCE AND FEAR

14. A correlation was obtained between the fear scores, based on six situations, of seventy-one children and the I.Q. obtained by the Minnesota Pre-School Scale. This coefficient was $.30 \pm .07$. Another correlation was computed between the fear scores, based on eight situations, of fifty-one children and the I.Q. obtained by the Minnesota Pre-School Scale. This coefficient was $.25 \pm .09$. According to this finding there is a small positive

relationship between amount of fear and intelligence when fear is measured and scored in quantitative terms. However, the correlations obtained between I.Q. and fear scores depend primarily upon the relationship existing in the case of the younger children. The correlations were consistently larger in the youngest—24 to 35 month—age group (when the scores were based on either six or eight situations). The rank correlation coefficients at this age range were, respectively, .53 and .50. The correlations between I.Q. and fear declined consistently in the later years. The rank correlation between fear score on six situations and I.Q. for children aged 36 to 47 months was .18, and for children aged 48 to 59 months it was .10, remaining at .10 for the children of 60 to 71 months. This suggests that the more intelligent child seems to develop certain fears earlier than the less intelligent child.

SEX DIFFERENCES IN FEAR BEHAVIOR

15. In almost every experimental situation the number and percentage of girls who were fearful was found to be higher than the number and percentage of boys who were fearful.

16. The average fear score of the fifty-six boys who were exposed to six experimental situations was $5.13 \pm .55$. The corresponding average fear score for the forty-seven girls was 7.33

$\pm .65$. The reliability of the difference ($\frac{D}{\sigma_{diff.}}$) between these averages is 2.58. Statistically this represents 99 chances in 100 that there is a true sex difference. In a further test of sex differences, girls and boys were paired with respect to age in order to eliminate the possible influence of age. There were twenty-nine such pairs that could be matched so that the average age of the two groups was identical. The reliability of the difference ($\frac{D}{\sigma_{diff.}}$) between these two averages is 3.29 and is therefore completely reliable.

17. Sex differences also appeared in the nursery school teachers' ratings of the fear shown by these same children in the nursery school environment. A description of this rating scale

appears in section 20. The teachers rated the girls as more fearful than the boys, when 18 pairs of boys and girls were matched with respect to age. The reliability of the difference ($\frac{D}{\sigma_{\text{diff.}}}$) between the average ratings of these matched groups of boys and girls is neither large nor reliable, but it indicates a trend in the same direction. The evidence, therefore, from every angle indicates that the girls in this study were somewhat more susceptible to fear than were the boys.

FEAR AND SOCIO-ECONOMIC STATUS

18. The subjects in this study included a group of fifty-six children, from a private nursery school, and from homes of a relatively high socio-economic status. The remaining forty-nine subjects were from a day nursery and from homes of a relatively low socio-economic status. When the fear scores of the children in these two groups who were exposed to six situations were compared, the private nursery school average was $7.05 \pm .59$, while the day nursery average was $5.15 \pm .58$. The reliability of the difference ($\frac{D}{\sigma_{\text{diff.}}}$) between these two averages is 2.33, which represents statistically 99 chances in 100 that there is a true difference. It is obvious that both age and sex might influence these averages. When fifteen pairs of children from these two groups, who could be matched with respect to age and sex, are compared, the reliability of the difference ($\frac{D}{\sigma_{\text{diff.}}}$) between the average fear scores of these two groups is only .14, which statistically represents a difference no greater than that to be expected to occur by chance. In other words, when the influences of age and sex were eliminated there was no appreciable difference in the amount of fear shown by these two groups of different socio-economic status.

19. The sex differences in fear behavior previously described are not nearly so marked in the case of the day nursery school children as in the case of the children of the private nursery school. The reliability of the difference between the average

fear scores of boys and girls in the day nursery was only 1.1, while that of boys and girls of the private nursery school was 3.23.

THE FEAR RATING SCALE

20. Fifty-four of the children attending the private nursery school were rated by the nursery school teachers (each child was rated by at least three teachers and given a score which represented the average of these ratings) with respect to their tendency to be afraid and to show signs of fear in the nursery school environment. A rating scale was used which ranged from 0 to 19, 0 representing little or no fear, and 19 representing extreme fear. These scores ranged from 1.7 to 17.8 and the average score for the group was $8.1 \pm .52$.

21. The average rating scores assigned to these fifty-four children were correlated with the fear scores based on eight experimental situations and the coefficient thus obtained was $.39 \pm .08$. When these same children were assigned rating scores obtained by calculating the median of the various scores they received from different raters, the correlation between this set of scores and the scores based on eight situations was $.48 \pm .07$. In spite of the unreliability of teachers' ratings these correlations indicate a definite positive relationship between the amount of fear shown by these children in the experimental fear situations and the fear shown by these same children in the nursery school environment, as estimated by teachers.

PARENTS' CHECK LIST OF FEARS

22. A check list of possible fear situations was compiled, the items of which were taken from parents' reports of fears observed in young children. This list was given to thirty-one parents, whose children were attending the private nursery school, at the conclusion of an interview. They were asked to check on the list any fears they had ever observed in their children, as well as to add any other fears not included on the list. Twenty-one parents filled out and returned these check lists. A rank correlation .58 was obtained between the number of fears checked on this list for each child and the fear scores obtained by these

same twenty-one children in six experimental situations. This indicates that a child who tends to show a somewhat larger number of fears in his home environment, even when measured in this rather rough way, also tends to show more fear behavior when exposed to the experimental situations. The relationship is, however, far from perfect, and suggests that a simple approach to the study of fear may yield an inadequate picture of the child's actual tendency to be afraid.

RESULTS OBTAINED BY VARIATIONS IN FOUR EXPERIMENTAL FEAR SITUATIONS

23. Four fear situations, the Falling Boards, the Dark Room, the Strange Person, and the Loud Sound were changed in various ways and presented a second time to groups of children. The Falling Boards were changed so that they dropped four inches to the floor instead of two inches, and they were presented again to twenty-nine children who had shown *no* fear when exposed to the situation the first time. The Dark Room had a new element added, a groaning sound which issued from the far end of the room, as the child started to enter. This situation was presented a second time to eighteen children who had formerly shown no fear of the Dark Room. The Strange Person situation was changed so that the Strange Person suddenly stood up as the child started to enter the room. There were twenty-eight children who had formerly shown no fear of this situation who were thus exposed a second time. The Loud Sound was sounded continuously until the child had entered into the situation or refused to do so, instead of being sounded only once as formerly. Thirty-five children were exposed to this situation, some of whom had shown fear before. The only one of these variations in the experimental situations which caused any appreciable increase in fear behavior was the addition to the situation of an entirely new element. The Dark Room situation, to which was added the new element of a groaning sound issuing from the dark, caused fear in fourteen of eighteen children who had shown no fear of the dark before. Only three of these fourteen had previously shown fear of the Loud Sound alone.

24. No reliable relationship was found between tendency to be afraid and the factor of difficult birth or birth trauma as revealed by parents' reports of the conditions surrounding the birth of the child.

AN ANALYSIS OF THE BEHAVIOR EXHIBITED BY THE CHILDREN
IN RESPONSE TO THE VARIOUS FEAR SITUATIONS

25. When the items of behavior checked on the record blanks for each situation were grouped under the categories in which they occurred, the relative number of children who showed the most intense fear (category 4) decreased with age. The Large Dog and Snake, in almost every age group, more frequently elicited responses in category 4 than in category 3. The children who showed fear in the various situations used language to express their fear to a great extent. In all situations combined, 81.5 per cent of the children who showed fear also used language, while only 25 per cent of the children who were not afraid used language. The Large Dog and the Snake elicited the greatest number of language responses.

The experimenter's offer to aid or accompany the child into the fear situation appeared to act as a means of relieving fear. In a total of 124 out of 200 instances of refusal to enter the fear situation, the children finally entered the situation when aided or accompanied by the experimenter.

CASES OF EXTREME INDIVIDUAL DIFFERENCES IN RESPONSE
TO THE EXPERIMENTAL FEAR SITUATIONS

26. The fear scores obtained in the experimental fear situations indicated that there were large individual differences in the amount of fear behavior exhibited. Four pairs of children were selected who could be matched with respect to age and sex and whose fear scores represented great differences in amount of fear behavior, that is, one child of a pair had an unusually high fear score, while the other child had an unusually low fear score. Additional information about these children, concerning their behavior and adjustment in the nursery school, personality, physical condition, home environment and parent atti-

tudes, and so on, was obtained from the developmental and case history records of the private nursery school. These various items were examined and compared to see whether any significant differences appeared to exist, which might help in interpreting the differences in fear behavior.

The only differences which appeared to be at all significant were that the fearful children were more often described as being dependent upon adults, easily upset emotionally, and generally insecure both in their social relationships and in their physical activities. Poor physical condition or an unstable home environment seemed to occur just as frequently among the children who were unusually fearless as it did among the children who were unusually fearful.

Part IV

THE NATURE AND PREVENTION OF CHILDHOOD FEARS

Arthur T. Jersild

CHAPTER I

GENERAL SUMMARY OF FINDINGS

THE foregoing studies deal with the nature of children's fears during infancy and later years, and with such problems as the duration of childhood fears, factors that contribute to the development as well as the prevention and overcoming of fear, the effects of fear, and the persistence of childhood fears into adult life. The study provides more in the nature of a survey of fears that are most prevalent at different age levels than of an inquiry into the genetic origin of specific fears.

The investigation includes four main divisions as follows:

I. Observations of Children's Fears by Parents and Other Adults

These records include:

1. Data submitted by parents who observed and recorded their children's fears for a period of twenty-one days. The records were kept on mimeographed forms. The data include 153 such 21-day records, representing 136 different children (from 119 families) ranging in age from 3 months to 97 months. Some of the children were observed for twenty-one days on two or more occasions, separated by intervals ranging from six months to over a year.

2. Information obtained in supplementary projects, including: (a) Reports submitted by an additional group of fifty-two parents, teachers, and nurses who reported occasional fears exhibited by children in their care (but not according to a systematic schedule). The records here include a diary account of the fears of a child who was observed from the time of birth to the age of two years. (b) Interviews with thirty-one parents of preschool children who were asked to describe the earliest, most intense, and most persistent fears exhibited by their children, and to

describe the methods they had found most useful in preventing and overcoming fear. (c) Case records of specific fears; and (d) An account of methods used by a teacher in dealing with the fears which were exhibited in a summer camp by young city children.

II. *Reports of Fears by Children Themselves*

This division of the study represents an analysis of the data obtained in an earlier study in which 398 children, aged 5 to 12 years, were asked in private interviews to describe their fears.

III. *Reports of Fears Recalled from Childhood by Adults*

Written, anonymous accounts of fears recalled from childhood were submitted by 303 adults; the accounts also gave replies to questions concerning earliest and most intense fears (as recalled by the adult), factors that were found helpful in coping with fears, and fears that persisted from childhood into adult years.

IV. *Observations of Children's Fears under Experimental Conditions*

In this study, by Holmes, preschool children were observed when confronted with a number of situations that might elicit fear. The subjects numbered 105, and ranged in age from 24 to 71 months. The specific circumstances in which these situations were presented are described by Holmes in Part III of this monograph.

TREATMENT OF THE DATA

Fears described by parents and other adults who observed the children in their care, were classified in terms of a number of restricted categories, as well as in terms of more general ones. The categories (described fully on pages 21 to 32) were devised along empirical, trial and error lines, with a view to tallying each fear, as far as possible, in terms of the situation or stimulus that originally provoked it. The validity of the categories was high,

as measured by comparisons between judgments recorded by workers who independently classified large portions of the original data.

The categories used in classifying fears as observed by the child's elders were also employed, with some modifications (pages 114 to 116 and 151 to 154), in analyzing children's fears as described by themselves and fears recalled from childhood by adults. The data in these divisions could not, however, as readily be analyzed in terms of the ostensible original cause. In the case of fears recalled from childhood by adults, a separate classification was made of apparent original causes, but this had to be made in terms of rather general categories.

In the experimental study of fear, Holmes recorded children's reactions in such a manner that the child's behavior when confronting a given situation could be classed under general headings, ranging from immediate, unhesitating, and complete participation in the situation that was designed to test the child's fear, to complete withdrawal, retreat, or refusal to enter into the situation even when the experimenter offered to accompany him and to help him.

RESULTS

Findings in Experimental Study

The findings in the experimental study are summarized in detail by Holmes on pages 285 to 296. A brief recapitulation of some of the findings follows: Animals (dog and snake) elicited signs of fear most frequently; next in order of effectiveness was a dark room, followed by a high place, a strange person, and a loud sound; least effective were situations representing insecure footing and being left alone. The order of effectiveness changed with age. In the study as a whole, the results show a large decline with age in the frequency of fear in response to the specific situations that were used.

There was a consistent decline with age in signs of fear in response to insecure underfooting, the strange person, high place, and loud sound. Fear of the dog declined slightly from the age of two to the age of three years, and then remained constant

through the age of four years. Fear of the dark room and of being left alone increased from the age of two to the age of three years and then declined during the age of four years, and disappeared at the age of five years. Fear of the snake increased in frequency to the age of four years and then showed a gradual decline; the snake was the only situation that elicited fear in children aged five years. (A horned toad, used only in a few instances, provoked little fear at any age.)

When a groaning noise was added to the dark room, a majority of previously unafraid subjects exhibited fear. Variations which were designed to intensify the effect of other situations (the noise, the strange person, the insecure footing) produced little change.

There was a positive correlation between fear and I.Q.; the correlation was highest at the age of two years and declined to a negligible value at the age of five. Since the subjects did not represent a normal sampling of the population with respect to I.Q., the findings here are indecisive.

Girls exhibited more fear than did the boys.

Children from a day nursery, representing homes relatively low in the socio-economic scale, exhibited somewhat less fear than did children from nursery schools, representing homes relatively higher in the socio-economic scale, but when children were paired with respect to the factors of age and sex, the difference was low and quite unreliable.

Case studies were made of four children who exhibited much fear in the experiment, as compared with four children of similar age and sex who exhibited little fear. In contrast with the latter, the children who exhibited much fear were described as being more often dependent upon adults, easily upset emotionally, inept in their social contacts, and lacking in motor skill. No difference between the groups appeared in such factors as general health and physical condition, or in the "stability" of the home environment. On the basis of such limited data as could be procured, there appeared to be no significant relationship between difficult birth or possible birth trauma and a child's later tendency to be afraid.

I. *Findings in Data Submitted by Parents and Other Adults Who Observed and Recorded Children's Fears*

The 153 21-day records submitted by parents gave a description of 710 different fears, or an average of 4.64 fears per child. This means, in the average case, only one fear approximately every four and one-half days. This average would no doubt be higher if all children had been under observation during the entire twenty-four hours of each day, but the data indicate that overt expressions of fear occur relatively infrequently in the behavior of the usual child of preschool age as compared, for example, with the frequency of signs of anger.

The number of fears per child ranged from 0 to 24 within the 21-day period.

The trend of the results in the 21-day records is substantially the same as the trend in data submitted by fifty additional adults who kept occasional records (and who reported a total of 190 additional fears).

Development Trends. When children were grouped according to yearly age levels, the data show that overt signs of fear occurred most frequently at the age range from 12 to 24 months. Following this, there is a decline in the frequency of overt signs of fear; but the variability at all age levels is high.

Differences in fear as related to age are more marked when an analysis is made of the situations in response to which fear is shown. The frequency and the relative frequency of various classes of fear at bi-yearly, yearly, and half-yearly age levels, from birth to the age of 5 years and beyond are shown in Tables II to VI (pages 44 to 60). A graphic summary of the age trends is shown in Figures A, B, and C (pages 54 to 56).

During the first two years of life, fears were exhibited most frequently in response to the following stimuli: noises, and objects, agents and events associated with noise (representing 25.4 per cent of all fears reported); strange, unfamiliar, or novel situations, objects, and persons (representing 24.3 per cent); pain and tactual sensory shock, including persons and objects associated with pain and sensory shock (17.9 per cent); falling, high places, sudden displacement, immediate possibility of falling (12.7

per cent); animals (6.7 per cent) sudden, unexpected visual phenomena, sudden movements, lights, flashes, etc. (5.6 per cent). These categories represent over 90 per cent of all fears observed during the first two years.

As children grow older, there is a decline in the relative frequency of fear of noise and of events associated with noise, fear of strange objects, situations, and persons, fear of falling and fear of specific objects or situations (not strange or unfamiliar, reason unknown); there is an irregular decline in age in the fear of sudden or unexpected movements.

Fear of animals (actually encountered as distinguished from imaginary or remote animals) becomes progressively more frequent up to the age of 4 years, with a slight drop at the age of 4 years, and a slight decline thereafter. Fear of the dark and of being alone, as well as practically all fears of an imaginative, subjective, or anticipatory character, show an increase with age. When fears of the latter character are tallied as a group—including fears arising in dreams, fear of possible ridicule, fear of death and dying, robbers and the like, the dark, being alone, and imaginary creatures—there is a marked increase with age from 0 per cent during the first year of life to 27 per cent at the age of 4 years (representing both 21-day and occasional records).

There is an increase with age in the frequency of fears in response to situations that may be classified under the heading of "possible accidents and injuries" (including threats or danger of drowning, fire, assault, confinement, and traffic accidents), as distinct from immediate and concrete harrowing or startling stimuli, such as noise, sensory shock, falling, or sudden visual phenomena.

Sex Differences. Comparisons between boys and girls are shown in Table VI, pages 60-61. On the whole, the resemblances between the fears of boys and girls are more outstanding than the differences. Boys show a higher frequency of fears under the following headings: fear of falling, fear of other dangerous or possibly dangerous situations such as dangers connected with traffic, fear of drowning, assault, confinement, being shot. The latter difference is most prominent at the upper age level. It is

possible that this difference is due to the fact that boys have more contacts with stimuli that might provoke such fears. Girls show a higher frequency of fear of strange objects and strange situations and of strange persons, but the difference is not consistent through all age levels.

Resemblances between Siblings and Twins. Among the children whose parents kept records for twenty-one days, there were fourteen groups of siblings or twins, representing thirty-one children. Findings that appeared in analysis of the data of these children must be taken with some reservation in view of the small number of subjects involved.

There was a good deal of correspondence between the frequency of fears of children of the same family; the correlations ranged from .65 to .74.

In the majority of comparisons, the two members of a sibling or twin pair exhibited one or more similar fears. There also were many dissimilarities, however. The discrepancy in the ages of the members of the pairs would tend to mask such resemblances as might otherwise be found.

Limited data also indicate that extreme contrasts in the tendency to be fearful may occur among siblings even though the children seem to share a similar environment.

Children's Reactions in Fear Situations. The reactions of the children when they were afraid, as described by parents and other adults, were classified and tabulated under general headings. Vocal responses constituted about one-third, and other overt responses about two-thirds of the specific reactions exhibited in fear situations. Younger children more frequently cried, yelled, screamed, and called for help. Older children more often exhibited more subdued vocalizations such as whimpering, audible catching of the breath, and mutterings which parents sometimes described as "fussing." The older child also more frequently used words in voicing protests or in naming the thing that he feared. Although differences such as the foregoing were noted in the general trend of the reactions at different age levels, all of the differences were relative.

The trend of the findings suggests that many differences between older and younger children would appear if subtle expres-

sions of fear could be recorded more adequately. The older child is better able to disguise his fears, to inhibit outward expressions of emotion, to foresee the possible danger and to lay schemes to avoid or circumvent it.

The data of the present study indicate that the observational method does not suffice to give a clear, continuous picture of emotional development from early infancy into later years. Much that is private to the individual's experience escapes the observer. According to the quantitative results of this division of the study, there is a decline with age in the frequency of overt signs of fear that may be observed and recorded by an adult observer. But this does not necessarily mean that the same finding of a decline in frequency of fear would appear if one could obtain a complete picture of the child's own private experiences. By the same token, studies that indicate a decline with age in the frequency of anger, jealousy, and resistance may likewise be in error. There may be a decline, to be sure—as appears in the present study of fear—in the gross outward expression of emotion. But such expressions tell only a part of the story. Although objections to data obtained through the report of the person's private experience are well known, the fact remains that a large area of behavior can be reached only through one form or other of the introspective method. This statement will hold true unless or until more refined measurements are devised to probe the more subtle physical and physiological reactions that accompany an individual's private feelings and emotions.

Fears Relating to the Safety of Others. A separate count was made of fears that might be classed under "fears relating to the safety of others" (e.g., the child shows fear in his brother's behalf when the brother is perched on a high place). The data include only twenty-three instances of fear under this heading. It is possible that more fears of this kind would have been noticed if a larger number of the subjects had had siblings near their own age. The twenty-three fears were exhibited by twenty different children. In 70 per cent of the instances in which a child showed apparent fear for the safety of others, the records indicate that he had shown fear for his own safety in similar circumstances.

Early Signs of Fear. The data with regard to the first fears exhibited by infants are limited to a few case studies and data obtained through interviews with parents.

Noises predominate among the events recorded as responsible for earliest fears. Next in frequency comes falling and danger of falling, followed by fears that may be classed under the following respective headings: pain, strange persons, and animals.

The case study of a child who was observed from the time of birth until after the age of two, suggests the effect of general maturational factors in the development of fear of strange persons, strange situations and animals.

The Specificity of Fear and Unpredictability of the Conditioning of Fear. The data repeatedly emphasize how difficult it is to predict when a child will be afraid. Two children may confront what seems to be the same situation; one is afraid, the other is not, and the known past history of the children gives no obvious explanation of the difference. Again, the same child may face a given situation at a certain time without showing fear but at a later time, with no grossly apparent intervening causal factors, the same situation gives rise to fear. Further, the data show again and again that a child may be afraid on his first contact with a certain event and show no fear when he meets it a second time.

The data also reveal instances in which a child is confronted with a quite harrowing experience—such as being beaten down, or carried away by the force of waves—with no subsequent sign of fear when next he confronts a similar situation. The picture of conditioning that has sometimes been proposed—a child, a rat, a sudden noise, the rat leaps, the child starts, the child subsequently fears rats and other furry things—is a decided oversimplification of what occurs in daily life.

In a minor project designed to throw some light on the appearance of fears for no obvious reason, in response to events that the child had met and had not previously feared, thirty-one mothers were asked in private interviews to state whether they had observed such fears. Seventeen of the thirty-one mothers reported fears of this character. The fear of strange persons

was reported most frequently (5 cases) as a fear that seemed to appear quite unaccountably in situations where no previous fear had been shown under quite similar circumstances.

To be sure, it cannot be assumed that fears that appear *de novo* in this manner have no causal history behind them. The present comments merely stress the point that the causal factors are obscure.

The fact that events which produce fears may be highly specific can be observed so often in daily life that it may be regarded as a truism. Numerous examples of this fact appeared in the data of the present study: A certain noise causes fear and another does not; a child is taken to one strange place and exhibits no fear, while in another strange situation he does show fear; he fears a certain dog on first seeing it, and has no fear of another dog. Examples of this kind may be given without number. Undoubtedly there is some feature of the specific situation that is the deciding factor; but just what it is that turns the scale in one specific situation and not in another, is hard to tell. The problem here involved is one that needs a good deal of intensive study. On the basis of present knowledge, any general statement as to specific stimuli that are likely to cause fear in the case of a given child is likely to be highly untrustworthy.

Physical Effects of Fear. In most of the instances of fear in the present data, the child's overt symptoms persisted for only a short time after the frightening event had been removed. Although the overt symptoms were sometimes quite acute, they usually were quite temporary. Occasionally more intense reactions were noted. In one instance a child became so upset (after having set a house afire) that he crawled under the bed for a while, showed no appetite the next morning, threatened to run away, and wept during the following day. Two children exhibited such intense fear of the toilet that they retained their urine.

The Effects of Physical Condition on Susceptibility to Fear. The present data do not give an adequate account of the degree to which the child may be more susceptible to fear when he is

physically below par. Occasional reports indicate, however, that a child is more likely to be afraid of a given event if he is tired or has previously suffered from loss of sleep. There is need of further study on this problem.

Miscellaneous Fears. When the data are analyzed to find evidence regarding fears that have been described as "instinctive" in some of the earlier writings in psychology, the results are quite equivocal. Some children exhibited fear, while others did not, when first they came in contact with large bodies of water. It did not appear to be the ocean as such but the noise of the surf and, even more, the onrushing movements of the waves, that led to fear.

The child's reaction to animals may also be noted. The fact that a large percentage of older preschool children showed fear of animals has already been indicated. However, fear of animals was by no means universal. Some instances of fear were noted when the child first saw a strange animal, but it appeared that factors other than the mere presence of the animal might be responsible. For example, one child became frightened when first he was taken to the bird house in the zoo. The noises made by the birds appeared to be the deciding factor. Again, a child showed no fear in the lion house until one of the lions began to roar. Fear of reptiles and insects likewise shows no consistent trend. One child may exhibit fear when first he sees a snake or a frog while another child may try to pick up the creature and play with it.

Even more important than noise, no doubt, is the factor of an animal's movements. In the experimental situations, a lively small snake elicited much fear while an ugly but immobile horned toad produced but few signs of fear. Likewise in the experimental situations, a small, lively dog that was used for a time elicited more signs of fear than a much larger but more stolid dog.

The records show a number of fears in response to a familiar object after it has been changed in some way. The child may, for example, fear a doll after the doll's head has been dented or broken. He may fear his mother the first time he notices her

with heavy cold cream on her face; he fears his grandmother when he sees her without her glasses, or his playmate who comes to visit him with a bandage over one eye. Fears in this general class undoubtedly are similar to a large number of fears that fall under the general heading of "strange and unfamiliar events."

Intense and Persistent Fears. In connection with a minor supplementary project, thirty-one mothers of preschool children were asked to describe the fear which according to their judgment had been the most intense and outstanding fear in the lives of their children. Seven mothers reported that there had been no especially outstanding fear. In the remaining cases, fear of animals and of noises headed the list (each of these had a count of 6); strange places or persons (with a count of 4) came next in order. Further data concerning intense fears are reviewed in a later paragraph.

The same parents were asked to tell what fear or fears had been most persistent in the lives of their children, i.e., what fears had been noted over the longest period of time. In their answers, fear of noise (with a count of 11) headed the list; this was followed by dogs and other animals (7 cases), and by painful objects, persons or events (7); suddenly moving, rushing, or strangely rolling objects (4); strange persons (4). The remaining reports were scattered among a variety of categories.*

II. *Fears Reported by Children Themselves*

Relative Frequency of Various Fears. The fears described by 398 five- to twelve-year-old children who were questioned in private interviews continue the trend exhibited in the fears of older preschool children whose behavior was observed and recorded by their elders. A large proportion of the fears dealt with fantastic, remote, or improbable dangers. Fears of imaginary creatures, bogies, witches, and the like, of the dark and of being alone, and of imaginary creatures feared in connection with darkness or solitude represented 18.8 per cent of all fears reported;

* Data concerning methods of overcoming and preventing fear will be reviewed at a later point.

fears of criminal characters (robbers, kidnappers—apart from actual contact with such characters) constituted 9.5 per cent of all fears reported; other classes of somewhat similar fears include: corpses and matters associated with death and funerals (apart from expressed fear that the child himself might die), 2.5 per cent; fears arising during dreams and nightmares, 5.6 per cent; characters met in or remembered from stories and pictures, 8.4 per cent. The foregoing categories represent 44 per cent of all fears reported by the children; this figure is raised to 53 per cent when fears of remote animals (lions, wolves and other creatures that the child is not likely to meet) are included with the above-named categories.

The children reported a number of fears (5.7 per cent of all items) in response to specific activities of others who apparently deliberately tried to induce fright by means of gestures, outcries, and words (such as when another person covered his head with a sheet, and made guttural sounds and clawing movements with the hands while advancing toward the child).

Fears dealing with more mundane matters were reported with frequencies (in terms of per cent of all reported fears) as follows: possible danger or threat of bodily injury in specific situations, through fire, traffic, drowning, fighting, and the like, 11.9 per cent; animals (dogs, cats, and other proximate animals, as distinct from bears and wolves), 8.2 per cent; apprehension over possible punishment for misconduct, 1.6 per cent; noises and agents of noise, 3.9 per cent; fear of dying and foreboding of ill health (apart from any malady actually afflicting the child at the time and apart from specific accidents and injuries), .64 per cent; pain and painful situations (operations, being lanced, etc.), 3.4 per cent; strange objects, persons (but not criminal characters) and situations, 2.8 per cent; illness or death of parents, being abandoned by parents, 2.1 per cent. Other categories, represented by a small number of cases, include sudden unexpected movements, falling, loss of property, signs of fear in others. Items under the general heading of fear of failure, personal inadequacy, ridicule, meeting and performing in the presence of others, represented 1.6 per cent of all reported fears.

Age Differences. When fears reported by children aged 5 to 12 were classified according to bi-yearly age levels, the results show a consistent rise with age in the relative frequency of fears under the heading of "failure, personal inadequacy, ridicule, personal appearance, etc."; this category represents only a small proportion of all reported fears, however. Fear of the dark shows an irregular increase with age. There is a decline with age in reported fears of supernatural creatures, such as ghosts and witches (from 19 per cent at the age of 5 and 6 years to 5.7 per cent at the age of 11 and 12 years), but an increase with age in the relative frequency of fears centering upon specific characters met in stories and pictures (from 3.1 to 11.4 per cent at the respective ages noted above). When all fears dealing with ostensibly imaginary, fictitious, supernatural, or remote dangers are totalled, this group as a whole shows a high frequency at all age levels, but on a declining scale (from about 63 per cent at 5 and 6 years to about 48 per cent at 11 and 12 years).

There is a decline with age in reported fears of animals; the decline is somewhat more marked in the case of remote animals (bears, lions, etc.) than in the case of common animals, such as dogs and cows. Fears that most notably show an increase in relative frequency with age are fears dealing with dangers of bodily accident or injury under specifically named conditions, such as fire, traffic, drowning, rough games, and fighting (there is an irregular increase from 7.5 at the five- and six-year-level to 13.5 per cent at eleven and twelve years).

Sex Differences. There were no outstanding differences between the fears reported by boys and girls. Such differences as did appear were confined largely to a few categories: boys relatively more often reported fears of possible accidents and injuries in specific situations (fire, drowning, fighting, etc.); this category represented, respectively, 15.1 per cent and 9.2 per cent of all fears reported by boys and girls; boys also reported relatively more fears of remote and imaginary animals: the respective boy and girl frequencies here were 11.2 and 7.5 per cent. Girls reported somewhat more fears of strange persons actually encountered in daily life as distinguished from kidnappers, robbers,

and other more remote criminal characters (boys, .56 per cent; girls, 4.1 per cent); girls also exceeded boys in reporting fears under the infrequently mentioned category of apprehension over failure, ridicule, and personal inadequacy (boys, .28 per cent; girls, 2.7 per cent).

Differences as Related to Socio-Economic Status. The subjects in the study included children in private schools, representing homes relatively high in socio-economic status, and children in a public school, representing homes relatively lower in the socio-economic scale. The children from poorer homes exceeded children from more privileged homes in the following fears: animals, remote animals, criminal characters, matters connected with death, fear of being abandoned by parents, and fear of imaginary and supernatural creatures. The difference was most pronounced in the last-named category (it represented 12.8 per cent of the fears of the public school group and 5.8 per cent of the fears of the private school group). On the whole, children from homes that stood relatively high in the socio-economic scale reported a larger proportion of fears dealing with potential dangers in daily life (accidents, injuries, ill health), while the less privileged children exhibited a relatively larger proportion of fears of supernatural and remote dangers. This trend still appeared when comparisons were made between children of the two groups who had been matched with respect to I.Q.

Fears as Related to Intelligence. Less intelligent children exhibited a larger proportion of fears of criminal characters and of imaginary and supernatural creatures than did the more intelligent children (when both categories are combined, the respective relative frequencies in the case of children below 100 I.Q. and children above 120 I.Q. are 24.8 and 12.7 per cent). Children with high I.Q.'s reported a larger proportion of fears arising during dreams. Bright children somewhat exceeded average and dull children in reporting fears dealing with concrete actual or potential dangers in daily life. But fears of imaginary and remote dangers were frequent at all mental levels. Moreover, fear of the dark was reported as frequently by children with I.Q.'s above 120 as by children with I.Q.'s of 80 to 100.

III. *Fears Recalled from Childhood by Adults*

The written anonymous reports submitted by 303 adults* who described fears recalled from childhood provided a record of 1,112 fears; when duplicating items within a certain class of fear (such as the mention of both snakes and rats, each of which would be tallied under the heading of "animals") were eliminated, the total was 1,017.†

Distribution of Fears. Fear of animals represented 17.4 per cent of all items reported by adults who described their childhood fears. This total included fears of animals that are not ordinarily met in daily life, such as poisonous reptiles and wolves, but it was not possible to segregate, in a thorough way, the fears traceable to actual encounters with animals from fears arising through vicarious influences. Definitely imaginary animals, such as werewolves, were, however, excluded and tallied under the heading of imaginary creatures.

Fears under the general heading of possible accidents and bodily injury, punishment, and illness (as distinct from concrete, immediate harrowing or startling events, such as noise, pain, sudden visual phenomena) constituted a large portion of the fears recalled by adults, representing over 22 per cent of all items reported. These included fears under the following headings: "possibility of accident or injury in various situations (apart from fighting and threatening persons), such as drowning, traffic accidents, fire, the possibility that a gun might go off and kill, that an airship overhead might fall upon one's head, etc." (12.7 per cent of all fears reported); "threat of possible harm from persons, fighting, and danger of attack by persons described as harmful,"

* As noted in the section dealing with these data, the subjects ranged in age from 17 to 35 years when these reports were submitted; a majority of the individuals ranged in age from 18 to 21. It is questionable whether persons so young should be called "adult," but the term is used here to distinguish these subjects from the subjects on other divisions of the study.

† As already noted, it was difficult, in classifying fears recalled by adults, to follow the procedure (used in classifying children's fears as observed by others) of identifying the fear, as far as possible, in terms of the stimulus that first provoked it. The records submitted by adults were more detailed in describing the event that was feared than in describing factors that originally prompted the fear. A separate classification was made of fears as described by the adults and of the causes of the fears, in so far as the adults described what they believed to be causes.

(4.3 per cent of all fears); "dying and ill health (apart from specific accident, or danger from persons, or any actual malady or imminent danger to health)" (3 per cent); "apprehension over punishment for misconduct" (2.5 per cent). Included in nearly all these categories are many fears of an anticipatory and improbable character (such as the fear that one might suffer an accident if one travelled by ship or train or that an airship *might* fall on one's head).

Another large proportion of the fears recalled by adults (14.1 per cent) include fears of the dark, of being alone, and of imagined creatures and dangers that lurk in the dark. When a count is made of all fears that seem definitely to represent imaginary and subjective dangers—the dark, being alone, imaginary creatures, ghosts, fears arising during dreams and nightmares, supernatural events, matters associated with corpses and death, characters and events met in stories and pictures, and criminal characters—the total under these headings constitutes 28 per cent of all fears reported.

About 9 per cent of all fears occur in the general category of fear of failure and personal inadequacy, including apprehension over future status, fear of meeting people socially and of performing in public, fear of failure in immediate or in future projects and ambitions.

Falling and high places account for 5.1 per cent of the fears recalled; noises (as such), 3.1 per cent; pain, medical men and medical treatment, 5.8 per cent. Other factors, such as sudden and unexpected visual phenomena, lightning, and specific objects and situations (cause not indicated), account for a small number of fears.

The trend in the fears as recalled by adults follows the trend noted in the fears of older preschool children whose behavior was observed and recorded by adults. Fears dealing with animals and with remote and imaginary dangers, and with anticipation of danger even though the immediate environment presents no stimuli that in themselves are startling or harrowing, far outnumber fears in response to concrete events, such as noise, imminent danger of falling, strange objects, persons, or situations.

The fears recalled from childhood by adults are decidedly more similar to the fears observed in children during later preschool years than to the fears observed in children during the first three years of life. The same generalization appears when the fears as reported by adults were classified according to the age level at which each fear first occurred (as recalled by the adult).

The data do not indicate to what extent earlier fears in response to concrete stimuli—such as noise, pain, sudden displacement, a strange object, person, or situation—are responsible for the fears of imagined and remote dangers that loom so large in later childhood. Even when reporting their “earliest” fears (as best they could recall them), fears of the latter character were more prominent than fears of the former class. Among the fears most frequently named as “earliest” were fear of the dark, imaginary dangers associated with the dark, and being alone (this category alone represented 23.5 per cent of all “earliest” fears that were reported), fears of animals, and of possible accident or injury (apart from an immediate startling or harrowing event).

Adults seem to have little recollection of the fears that are most prominent during the first two years of life. To be sure, the usual adult recalls but few experiences of any kind that transpire during these early years.

Among fears described as being “most intense” during childhood, fears of the dark, and dangers associated with darkness and being alone, again are prominently mentioned (representing 17.2 per cent of all items described under the heading of most intense fears); fears under the general heading of possible accident, injury, or harm from impersonal agencies (traffic, fire, ill health, drowning) or from persons (fighting, corporal punishment) represent 21.7 per cent of “most intense” fears; fear of animals accounts for 17.6 per cent of the items; and fear of personal failure, inadequacy, ridicule, and incompetence in social situations accounts for 10 per cent. The remaining “most intense” fears are scattered among several categories. (A complete review of all adult fears, earliest fears, and most intense fears is presented in Table I, Part II, pages 112–113.)

Fears Persisting into Adult Life. Of the 1,017 fears recalled from childhood by adults (not counting duplicating items within the same class), 349, or roughly a third, were described as still persisting at the time when the retrospective accounts were made. In the case of many fears (a total of 211) the adults failed to submit information as to whether the fear was still persisting or not. The fears that were definitely described as having been overcome numbered 457.

From these data it cannot be concluded that at least a third of the fears arising during childhood continue into adult years. The data no doubt are weighted by fears that still persist; obviously, a person will better be able to recall childhood fears that still prevail than fears that had their day and disappeared. It is still of interest, however, to note that a large number of fears that first appear during childhood still affect the individual in later years.

The largest single class of fears described as still in effect is fear of animals. This category represents 25.2 per cent of all fears described as still persisting. Other categories are represented by relative frequencies as follows: possible accident or injury through drowning, traffic, etc., 11.7 per cent; personal failure, inadequacy, possible ridicule, etc., 10.3 per cent; the dark, being alone in the dark, and imaginary dangers associated with the dark, 10.6 per cent; falling and high places, 8 per cent; pain and medical treatment, 7.4 per cent. Smaller frequencies appear in connection with certain other categories. When all fears of a prominently imaginary character—including fear of the dark, of supernatural creatures, corpses, and matters associated with death (apart from fear of dying as such), being alone, criminal characters, dreams and nightmares, and characters from stories and pictures—are combined, this group represents 20.55 per cent of all fears reported as persisting from childhood into later years. When a similar count is made of fears under the heading of possible injury, illness, and accident—through fighting, traffic, drowning, fire, explosions, plus punishment for misconduct, and dying and ill health—the fears in this group represent 19.1 per cent of persisting fears.

Adult Reports of Causes of Childhood Fears. The accounts offered by adults of the causes of childhood fears were far from complete or adequate, as we have already noted. The reports could, however, be analyzed in terms of certain general categories. In 339 instances, fears were attributed to a first-hand experience with a startling, harrowing, impressive, or threatening event, such as being bitten or snapped at by a dog, witnessing an explosion, being submerged in the surf, being hit or pursued by older boys, and the like. To this number may be added thirty fears that were definitely attributed to noises, as such. On the whole, these represent fears arising chiefly through impersonal or irresponsible agencies.

In 150 instances, fears were attributed to warnings, threats, lurid tales set forth by word of mouth, items concerning crime and terror inadvertently overheard from adult conversation, and the like. To this number may be added forty-six fears that were attributed to events met by the child in motion pictures and in his own reading, and thirty-five that were attributed to signs of fear displayed by others in response to events that had not, in themselves, originally frightened the child. Ten fears were attributed to ridicule by playmates, teachers, and parents; and one fear was attributed to parental rebukes and complaints.

In some instances, fears were described as arising in nightmares, without any specific recalled cause; some fears were attributed to actual bodily weakness (e.g., fear of roller skating due to chronically weak ankles, fear of noises due to increased sensitivity following a mastoid operation); some fears were attributed to imagined or introspective personal shortcomings (e.g., child is convinced that he lacks ability to learn to read, considers himself a very ugly person). In the case of 347 fears, the subject failed to offer any statement of causes.

It appears that only a little more than half of the fears (on which data regarding causes are provided) are attributed to contacts with startling or harrowing events or dangers, such as might befall any child in the course of his daily experience. A large proportion of the fears are prompted or intensified by vicarious stimulation, such as tales told by others, or events set forth in

books and pictures. Fears definitely attributed to the deliberate or inadvertent influences of others—including the telling of lurid tales, exhibiting signs of fear in the child's presence, ridiculing or nagging (but omitting bullying by other children), represent more than a fourth of the fears for which data concerning causes were provided. If more complete information were provided, it is possible that an even larger percentage of the fears were influenced by the deliberate or inadvertent (but in many cases avoidable) activities of other persons. The rôle played by others in stimulating a child's fears stands out clearly even though it must be recognized that the data do not indicate the degree to which fears of impersonal agencies, met during infancy, but later forgotten, contributed to a person's susceptibility to fear in later years.

Effects of Fear as Recalled by Adults. The effects of fear, as described by adults, were classified under certain general headings. The reactions most frequently reported may be classed under the general heading of "apprehension, avoidance, uneasiness, nervousness," representing 665 fears. Improved conduct, in the form of efforts to achieve self-improvement, was reported as the effect of eight fears. Acute anxiety, morbidness, extreme worry, acute obsessions and phobias were reported as reactions associated with fifty-nine fears. In the case of 153 fears, the fear influenced the individual's social adjustments through the effects of increased shyness, timidity, suspiciousness, or deliberate efforts to avoid social contacts. Sleeplessness and insomnia were reported as associated with fifty-one fears; in one instance one effect of the child's fear was to induce his parents to move to another neighborhood; in thirteen instances the effects of fear induced feelings of cowardice and self-reproach; in twenty-nine instances physical effects, such as stammering, temporary paralysis, or loss of appetite occurred.

Apart from the fifty-nine fears described as leading to acute anxiety, there were thirty-six fears that were described as being a "major source of unhappiness during childhood." (Sixteen, or almost 50 per cent of these were fears in the general category of "fear of personal inadequacy, failure, fear of ridicule, of meet-

ing others and performing in the presence of others.") Fleeting effects, consisting in temporary shock that soon disappeared, were described as characteristic of twenty-four fears.

COMPARISONS BETWEEN FINDINGS IN VARIOUS DIVISIONS OF THE INVESTIGATION

The data obtained through the different methods of study used in this investigation show a high degree of consistency in their major trends. Similar general findings appear when comparisons are made between data submitted by parents who kept records for twenty-one days, by other adults who observed and recorded occasional fears, and by parents who were questioned, in private interviews, concerning their children's fears.

Some differences appear in certain categories, but these differences are outstanding only in two instances. Adults, in recalling childhood fears, mention items under the heading of "fear of failure, personal inadequacy, ridicule, fear of meeting and performing in the presence of others" a good deal more often than do children when they themselves report their fears. The difference here appears to be due in part to the fact that the adults represented a somewhat higher level of intelligence than did the children who reported their current fears (nearly all adults were college students or college graduates, while a large number of the children who were interviewed had I.Q.'s ranging from 80 to 110). But the difference also suggests that the adult's retrospective concept of apprehensions concerning his status as a child differs somewhat from the child's own contemporary concept of his difficulties.

The second of the larger discrepancies between the three divisions of the data occurred in connection with fears of specific characters recalled from stories and motion pictures. Such characters were mentioned most frequently by the children who were interviewed. Adults also reported fears of imaginary characters, but less often, and they phrased their accounts in more general terms. The discrepancy seems to be due in part to a difference in mental status but the difference also suggests that the child entertains fears of imaginary creatures that are not recalled later.

By reason of the circumscribed conditions under which the experimental study (described in Part III) was conducted, the results in this study cannot so readily be compared with those in other divisions of the investigation. Some comparisons between the experimental data and the data submitted by adults who observed and recorded children's fears during non-school hours may still be drawn.

In keeping with the findings in the data submitted by adult observers, the experiments showed that fears in response to certain concrete stimuli—noise, situations representing possible displacement and falling, and a strange person—declined sharply and consistently with age. Again in keeping with the data submitted by parents, the experiments showed an increase, after the age of two years, in the frequency of fear of animals, being alone, and the dark. But this latter correspondence is not maintained: in the experiment, fears in response to these situations, after a temporary rise, declined to a marked degree by the age of five, while this was not the case in the data submitted by adults who observed the child during the day. It is noteworthy, however, that a variation in one of the situations—the addition of a groaning sound to the dark room—produced signs of fear in a majority of children who previously were unafraid of the dark room or of a noise when each of these stimuli was presented singly. On the other hand, efforts to intensify stimuli that showed declining effectiveness with age in the data submitted by parents did not produce an increase in fear: when the noise stimulus as such was intensified and prolonged, when the displacement stimulus was aggravated, and when sudden movement was added to the strange person stimulus, the alterations in these instances produced no significant increase in signs of fear.

These observations suggest that the data of the two divisions might be considerably more similar if the experimenter could have reproduced variations in the situations involving animals and solitude, and further variations in the darkness stimulus, so that these corresponded to the variegated situations of daily life that are represented in the data submitted by parents.

The finding, under controlled experimental conditions, that

girls exhibited more fear than boys is not corroborated by other divisions of the study, but an exact comparison cannot be made since the other divisions represent individuals living in varying environments. In three divisions of the data (observations by parents and other adults, interviews with children themselves, retrospective reports from adults) boys exhibited a higher proportion of fears of bodily injuries and accidents in material situations (traffic, water, fire, falling, etc.) than did the girls; in the first two of the divisions indicated, but not in the third, girls exhibited a larger proportion of fear of strange persons than did the boys. No division of the data, however, shows outstanding sex differences in the relative frequency of various classes of fear.

Under controlled experimental conditions, the brighter children among the youngest subjects exhibited somewhat more fear than did the children only slightly above average in I.Q. In the results obtained from interviews with children, brighter subjects reported relatively more fears dealing with actual or potential dangers in daily life than did the children with I.Q.'s below 100; the duller children, on the other hand, reported relatively more fears dealing with remote, supernatural, or imaginary dangers. The factor of socio-economic status was also related to this phenomenon, however. Similar comparisons could not be made in the case of adults who recalled childhood fears since these adults all represented a relatively high level of intelligence.

CHAPTER II

THE ORIGIN, UTILITY, AND PREVENTION OF FEAR

THE foregoing chapter summarizes the main findings of this group of investigations. This final chapter deals with general trends that emerge from the findings and with certain practical implications. The findings offer the following picture of developmental trends in children's fears.

During infancy the child's fears are aroused by the immediate properties of stimuli that impinge upon him. Sudden, intense, or unfamiliar stimulation through any sense modality may elicit fear. But marked differences between individual children and marked differences within the response of the same child from time to time make it difficult to lay down a uniform rule. Among the events that most frequently elicit fear in infancy are noises; novel phenomena in the form of strange objects, strange persons, and unfamiliar situations; painful stimulation or tactual shock, and events associated with pain and tactual shock; falling, displacement, and loss of support; sudden and unexpected visual phenomena in the form of suddenly or rapidly moving objects, or lights and flashes.

In many instances, a specific stimulus under one of these categories may fail to elicit fear when appearing alone but may produce fear when combined with a stimulus of another category. Thus, noise plus sudden movement may elicit fear where the noise alone has no apparent effect, and a noise that is ineffective in the child's accustomed surroundings may produce fear when the child is also confronted by a strange object or person.

As the child grows older, he becomes immune to fear of many events that frightened him at an earlier time and susceptible to fear of many conditions that previously had no effect upon him.

Fewer of his fears occur as a transient reaction to the immediate and tangible properties of stimuli that confront him, although there may be a causal relationship between early reactions and later fears. He becomes able to entertain fears of remote and imaginary dangers. The broadening of his contacts with the environment as he grows older, the development of ability to read, to understand the meaning of the language of those about him, to appreciate the meanings of pictures, all contribute to a widening of the range of stimuli to which he is exposed and of the scope of the fears that he entertains.

Between the ages of two and five years there is a sharp decline in frequency of fear in response to such events as noise, strange objects, persons and situations, and fear of falling. Less regular, but also marked, is the decline in fear of sudden and unexpected movements and other visual phenomena, and of specific events that have been associated with pain or tactual shock in the child's actual experience.

During this time there is a contrasting increase in fears of the dark, of imaginary and supernatural creatures, and foreboding that an accident or injury *might* happen even though the environment presents no startling or harrowing stimulus that demands an immediate adjustment; paralleling this subjective expansion, is the development of the terror dream and of nightmares in some children during and after the second year of life. Fears of this character represent a high proportion of the fears of children at the age of five years; these fears continue to be frequent throughout childhood and on into adult years. From the age of five years and on there is an increase also in apprehensions regarding one's personal status, including fear of failure, fear of ridicule, and fear that one may not make a good showing in the eyes of others. Throughout childhood fears of noise, specific pain stimuli, falling, and other specific events that arouse the infant still persist, to be sure, but in small numbers as compared with the fears just described.

Fear of animals is prominent during early preschool years.*

* The effect of the factors of noise and of sudden or unpredictable movements on the development of fear of animals is considered in earlier chapters.

As opposed to the trend of other fears that are frequent at that period, the fear of animals shows no substantial decline with age but continues to appear frequently at all age levels, into adult years. From the age of five and on, animals that are feared include a large number of remote creatures—such as lions and wolves—that actually present no danger, but even when these are eliminated, the incidence of fear of domestic or proximate animals remains quite high throughout childhood.

ORIGINAL CAUSES OF FEAR

The present study supports the findings of other investigators (among them, Jones, English, Valentine) who have taken issue with the one-time oft-quoted view that all fears are conditioned upon fear of noise and fear of loss of support. But just what are the original, unlearned bases of fear (if any such can be found) remains a question for further research. Among the earliest factors that produce fear most frequently, as we have seen, are noises, novel events, a present or previous experience of pain or tactual shock in connection with a specific event, falling, and sudden or unexpected visual phenomena. It may be proposed, as has been done in earlier writings, that a child fears any novel, intense, or unexpected stimulus with which he is unable to cope and for which he has no adequate response. This general statement—although more adequate than the statement that attributes all fear to noise and loss of support—is far from being as definitive as might be desired.

Several factors complicate the search for elementary fear stimuli. On the one hand, it is difficult to identify the stimulus that leads to fear, except in general terms. We may say, for example, that noise is an effective fear stimulus, but this is far from offering a statement that can be used for predictive purposes. Some noises affect a certain child, while others do not; a noise of a certain intensity produces startle, while another, of similar intensity but somewhat different quality, does not. The same child may react differently to the same noise at different times and in different surroundings. To give an adequate statement of a child's reaction to a given stimulus, it would be necessary not only to

take account of the qualities and the intensity of the stimulus as such, but also of the surrounding events, the child's past history, and his emotional threshold at the time.

In the absence of adequate knowledge upon all of these points (in the case of noise alone) we may still state, in general terms, that fears occur more often, during early infancy, in response to sudden, loud sounds than in response to certain other stimuli. This may be due less to the fact that noise is a prepotent fear stimulus than to the fact that loud sounds occur more often in the child's normal environment than do a number of other sudden and intense forms of sensory stimulation.

The present results support the further principle that the factor of maturation must also be taken into account, as set forth in earlier studies by Gesell and by Jones. As the child's mental capacities mature, he becomes capable of discriminating between events that previously were undifferentiated in his experience: he becomes susceptible to stimuli that earlier had no effect upon him. Through the combined effects of maturation and cumulative daily experience, he becomes increasingly capable of entertaining meanings and fancies, of responding to reduced cues, and of reacting to features of his environment in ways that were impossible to him at an earlier time. To be sure, no one can draw a sharp line between the effects of maturation as distinguished from the effects of experience in this development. But, as other writers have pointed out, when a child at a certain stage of growth exhibits a response that was not apparent at an earlier time, it is a fallacy to assume that the new response is due to learning alone.

Fear of the dark, for example, appears to be contingent upon mental growth beyond the first months of life. A specific illustration of the apparent effects of maturation is set forth at one earlier point. At the age of six months, a child showed fear for the first time in response to a colored maid; the maid had attended the child from the time of birth, but until this age the child had shown no fear, and he apparently was not sensitive to the difference between this person and persons of another color. The emergence of fear of the maid corresponded in time to the first

signs of fear in response to strangers and the first clear signs that the child could distinguish between strangers and familiar persons.

An additional factor that complicates the problem of what is the original basis of fear is the factor of individual differences in susceptibility to fear. The present study does not provide many data upon this problem, but individual cases do illustrate the fact—often observable in daily life—that children who apparently have been exposed to similar conditions and experiences may differ decidedly in the number of their fears and in their susceptibility to fright. Until such individual differences are analyzed in more detail, any account of what causes fear is likely to have little predictive value.

Although fear is often elicited by the conditions noted at an earlier point (sudden, intense, or novel stimulation through any sense modality), the response is not uniform or invariable, either when comparisons are made between different children or between the reactions of the same child at different times. To define the characteristics of the stimuli that are crucial in eliciting fears, to define the factor in the total stimulus-response situation that accounts for the occurrence of fear under some circumstances and not under others, to offer a generalization that would have predictive value, and to define the relative rôles of conditioning and of growth in the development and modification of fear, would require research of a more intensive, refined, and genetically continuous nature than any study that has yet been made.

This statement holds true not only with regard to fears characteristic of infancy but also with regard to the more fanciful fears of later childhood.*

* The reader will observe throughout the present report that there are many other points in the realm of fear on which further study is much needed. To try to enumerate all of these would be foolhardy, but some areas of needed research stand out prominently. Such phenomena as phobias, hypochondria, anxieties, and "feelings of insecurity" are not adequately probed in the present investigation, nor are the forebodings, "guilt feelings," worries about sex and future status, that sometimes form a part of mental conflicts and emotional maladjustment. A few adults who contributed to the data regarding fears recalled from childhood revealed, off the record, that they did not disclose certain fears of an "intimate" nature. The authors hope in future investigations to apply methods of study that will deal more adequately with these phenomena.

THE UTILITY OF FEAR

Numerous items in the present investigation bear indirectly upon the problem of the utility of fear. That fear may be useful in promoting prudence and caution and thus serve as a protection against harm, is obvious, of course. But a large number of fears appear, at first glance at least, to deal with spurious dangers.* Moreover, in a great many instances, the effects of fear do not apparently lead to constructive efforts to master the environment. On the contrary, the fears often have an inhibitory effect, they often seem to promote retreat and withdrawal, they frequently seem to induce futile expenditure of time and energy, and operate as an extra weight that the individual must carry.† Data such as those represented in this study—as well as observations that anyone may make in daily life—predominantly favor the tone of the statements above. In his fears, the individual often is needlessly troubled by fictitious shadows of dangers that never will occur.

Into this lugubrious picture it is necessary, however, to introduce a number of reservations. Just where lies the line between useful and superfluous fears is palpably difficult to tell. Likewise, one might try to make a distinction between 'rational' and 'irrational' fears, but the distinction would be arbitrary until more intensive research has been made. It is also possible that many salutary effects may flow from fears that seem quite without value. Actually, as shown in reports in this study, fears may sometimes directly prompt the individual to develop useful skills. Again, hypothetically, one might argue that many seemingly irrational and needless fears may indirectly promote various bene-

*The discrepancy between the events a child fears and the events that have presented injury or danger in actual daily life has been pointed out by the writer and his associates in an earlier study. (Jersild, A. T., Markey, F. V. and Jersild, C. L., *op. cit.*) Each of four hundred children was asked in one part of a private interview, to describe his fears. At a later point, each child was asked to describe "the worst thing that ever happened" to him. There was some overlapping between the answers, to be sure, but a large proportion of the fears that were described have little direct relation to misfortunes that actually had befallen the children.

†The character of many of the fears to which human beings are subject recalls Mark Twain's remark to the effect that he had had many troubles in his life, but most of them never happened.

fits, that they may have a seasoning effect upon the development of personality and emotional maturity, that they help the individual to achieve a degree of humaneness and sympathy that he might not otherwise acquire, that the very act of wrestling with an emotional problem—even though it be a straw man in the form of an irrational fear—brings ultimate benefit to the individual, and that certain fears may serve as an indirect spur to achievements and compensations that quite outweigh the distress occasioned by the fears themselves.

Although such considerations are theoretical, in the main, they must be taken into account. It is easy to offer an indictment of fear and assume—as often is done—that it is the duty of child guidance to eradicate fear as one would eradicate diseased tonsils. This assumption no doubt is more right than wrong. Certainly, it is true that the distressing and inhibiting effects of a great number of the seemingly irrational fears are more obvious than the possible salutary effects just mentioned. But in one's fervor to condemn fear one should not overlook the possible but not obvious benefits that fear may entail.

Apart from the question as to the appropriateness of many fears there is some reason to question the value of many of the physiological accompaniments of fear. The picture of the bodily changes that take place in emotional excitement—the increased sugar content of the blood, the distribution of blood to the skeletal muscles and away from the digestive tract, tremor, increased pulse rate, heightened systolic blood pressure—to mention only a few items—is a familiar one. Theoretically, such changes are calculated to increase the individual's strength and endurance for fight or for flight in the face of an emergency. But, in many details, this picture seems archaic. Active glands, and muscles that are keyed for physical struggle with a tangible danger, avail but little against a great number of the conditions feared by a civilized human being. While man's ability to entertain fancies and conjectures has tremendously enlarged the scope of his fears, his glands have, so to speak, remained in the jungle. The bodily machinery that underlies fear is geared to deal primarily with tangible and immediate dangers, but it is often set in motion by

conditions only remotely associated with such dangers. Fleet limbs help but little when one is pursued by a shadow.*

To be sure, a person may often be somewhat apprehensive without exhibiting pronounced physiological reactions. Often, however, in connection with outright fright as well as in connection with chronic anxieties, the individual seems to consume much energy to no useful purpose.

If one could take account also of variants of fear, designated by such terms as worry, fretting, chronic indecision, feelings of insecurity, one might find an additional large area of human experience that involves the expenditure of energy to no practical avail. The same may be said about more morbid states that contain an element of fear, such as phobias and "doubting" manias. There is room for much additional study to define the nature and frequency of such states of fear, and to probe their effects upon behavior.

FACTORS IN THE PREVENTION AND OVERCOMING OF FEAR

In some divisions of the present study, an effort was made to obtain information concerning ways of overcoming and preventing fears. Parents who observed and recorded their children's fears were asked to describe their behavior when a fear arose. Further information was obtained from interviews with thirty-one parents of preschool children. Adults who described fears recalled from childhood were also asked to describe, as best they could, the ways in which they coped with their fears. The ensuing discussion deals with practical suggestions that may be

* In another connection, the writer has touched upon the problem of the effect of the bodily accompaniments of emotion on mental efficiency (21). Physiological reactions resembling, to some degree, the bodily changes associated with emotional excitement were induced by hypodermic injections of adrenalin. While the symptoms thus induced (including changes in pulse rate, heightened systolic and lowered diastolic blood pressure, pallor, tremor, dryness of the mouth, and glycosuria, as shown by later analyses in some cases) were at their height, the subjects were tested in various performances. ~~The tests revealed an increase in muscular strength and motor speed but a slight decline in ability to do mental work.~~ The data were limited and need confirmation. They did suggest, however, that the bodily changes that accompany emotional excitement are better calculated to promote brute strength and speed than to aid the individual in facing emergencies in modern life that call more for the exercise of brain than of brawn.

culled from the data; on a great many points there is need of further research.

Factors Within the Child Himself

According to the data of this study, the changes that take place within the subject himself, apart from specific aids from others, constitute a large factor in the overcoming of fear. These changes fall under a number of headings, including *growth and general experience, direct habituation, and deliberate counteracting activities.*

Growth and General Experience. The picture of developmental changes in the nature of children's fears from infancy to late preschool years suggests that the combined effect of added growth and broadened experience, quite apart from specific attempts to cope directly with this or that fear, is an effective influence not only in the emergence of some fears but also in the waning of others. At the age of one or two years the child exhibits many fears of noises, strange objects, persons and situations, sudden visual phenomena, loss of support, and events associated with pain or tactual shock. During late preschool years, fears in response to these events are relatively infrequent. Quite apart from conditioning in connection with specific stimuli that once were feared, the child becomes more immune to fear of new stimuli within the above-named categories. His increased understanding and ability to deal with his general environment render him more able to cope with events that once, apparently, found him without an adequate response.

This waning with age in susceptibility to certain fears is important from the point of view of guidance. The rôle of increasing maturity and competence as a child grows older is frequently ignored in the field of child guidance, not only in connection with fears but in connection with other aspects of child behavior. Much that is done in the name of guidance no doubt often consists of needless efforts to anticipate changes that the child himself will achieve in due time in the normal process of growth.

To be sure, one must be cautious in interpreting instances in which fears seem to be overcome through the effects of growth and general experience. Fears of a certain type—such as fear of noises—may disappear in preschool years, and yet it is possible that such fears have been influential in causing a number of the fears of remote and imaginary dangers that arise during late preschool years. Concerning this question, there is need of further study. In the meantime, however, the present data clearly suggest that many of the fears that are common to young children represent a stage of development; as such they need not be regarded as abnormal, and anyone who plans the guidance of children should recognize that growing resources within the child himself appear to be an effective factor in the elimination of fear.*

Direct Habituation. As here employed, the term 'habituation' represents changed reactions through the direct and immediate effects of added experience with a feared event, as distinct from the gradual change effected by a combination of experience and growth. Here again the writer is drawing a distinction that would be difficult to defend in detail, yet it seems to be a practical one. The present study includes a great many instances in which a child apparently overcame his fear of a given event simply by repeated contact with it. The mere fact of having several experiences with an event that at first was frightening, the opportunity to examine it or to meet it again without further damage, often helped to overcome the child's fear.

The factor of habituation, as here described, seems to be a major influence in the waning of fear. A large proportion of the events that produce signs of fright during early preschool years represent no actual menace. Repeated contact with an event that produces an initial immediate reaction of withdrawal, but no further ill effects, does not necessarily lead to cumulatively increasing fear. On the contrary, repeated encounters of this character may lead to a cumulatively widening immunity to fear. An example of this is the fear of strange objects. A child will fre-

* The accounts offered by adults who recalled childhood fears likewise contain a great many instances in which a fear is described as being overcome through the effects of added growth and experience, apart from specific counteracting efforts on the part of the child himself or his elders.

quently fear an unfamiliar but harmless object. After several contacts with it he loses his fear. Now let him meet another strange object, with the same eventual reaction; let this process be continued with other objects; eventually the child has grown accustomed to a large range of objects, and soon his experience is so wide that fear of strange objects seldom appears—for the simple reason that his environment offers fewer and fewer objects that present elements of strangeness.

The foregoing statements do not, of course, apply to events that actually overwhelm the child or represent conditions with which he is quite unable to cope even if he were inclined to try. Nor do they apply to events that actually may be quite harmless, such as the dark or imaginary and supernatural creatures, but which are endowed by the child himself with elements of insupportable danger.* It may still be stressed, however, that unless the situation does contain elements with which the child is quite unable to cope, it would be a mistake for adults, in their efforts to help the child, to follow a consistent policy of removing from the environment all conditions that have aroused his fears.

Deliberate Counteracting Activities. Instances of deliberate attempts to build a defense against fear through self-discipline appear in the accounts offered by adults in describing their childhood fears. Such items as "I made myself dive into the water," "I deliberately went into dark places," "I learned to swim" (to combat, respectively, fear of diving, darkness, and swimming), "I won a fight with a playmate" (whom child had feared), illustrate this mode of attack. Again, the subjects describe efforts to remove the occasion for fear by means of improving their performance in school, by overcoming laziness, and overcoming a habit of dressing in a slovenly way (as a means of meeting fear of punishment and ridicule). The total number of fears that were overcome in this manner is not large, however, according to the accounts of adults who recalled childhood fears; a decidedly

*In the case of fear of the dark, certain elements of actual danger are, of course, added to the imaginary dangers with which the dark is endowed. In the dark one is, obviously, less able to cope with the immediate environment: one may lose his way, stumble, and fall, and sustain injuries quite apart from the activities of imagined ghosts.

larger number of fears were described as having been overcome through chance learning, habituation, growing bigger, stronger, and "wiser," and through other changes that were not the result of a deliberate scheme of self-discipline.*

METHODS THAT MAY BE USED BY OTHERS TO AID THE CHILD

Prevention of Fear

The Avoidance of Fear Stimulation. The very nature of the influences that contribute to children's fears suggests that much of the work of coping with fear consists in preventing their inception rather than in cures. A large number of the fears occurring between the ages of five and twelve years fall under the heading of "fears due to the apparently deliberate efforts of others to frighten the child." Mothers and fathers, maids, schoolmates, and even teachers were mentioned as among those who frightened children with various gestures, noises, masks, and lurid tales and threats. In addition to these apparently witting attempts to scare the child, the data abound in illustrations of unpremeditated, but often avoidable, tactics that stimulate the child's fears. As we have noted in other paragraphs, a large number of fears, especially after the age of four, deal with remote dangers that never have actually confronted the child in the form in which they are feared. Theoretically, it should be possible to control some of the vicarious agencies that stimulate such fears.

The most obvious step in this connection would be to avoid deliberate stimulation of fear, either for amusement, or as a form of discipline, or as a means of subduing the child. There would no doubt be a substantial reduction in the frequency of children's

* According to the reports of adults who recalled childhood fears, a total of 282 fears were overcome through changes that took place in the child himself in the normal course of his development—through added ability and experience, improved health and strength, habituation and self-discipline—as contrasted with only 65 that were described as having been overcome through specific aids or influences exercised by others in helping the child to cope with his fears. It is not unlikely that the subjects were a bit generous in taking credit for their own rôle in the overcoming of their fears, but the relative frequencies are none the less interesting. It is also of passing interest to note that the fears described as originating through the machinations of others (lurid tales, threats, etc.) were quite as numerous as the fears described as having been overcome through the help of others.

fears if adults universally observed this rule. To achieve the optimum effect, it would be necessary also that children should observe the rule, since a child's fears are frequently promoted by malicious or thoughtless playmates.

Even though apparently deliberate attempts to provoke fear were eliminated, a large problem of prevention would still remain, however. Oftentimes the word or act that leads the child to become afraid is quite inadvertent. Remarks that are dropped in the casual conversation of those about him may form the theme of a child's fears. Items in apparently innocent stories may react upon the child in unpredictable ways. The data include many illustrations of this.* For an adult to shield a child from all ideas that might become a focus of fear would be quite impossible, and it would be even more difficult to teach children to avoid all topics that might produce fear in a playmate.

Equally difficult to control but quite as important is the factor of the parents' own fears. The present study includes instances in which a specific fear entertained by the parent has been communicated to the child. More conclusive evidence of the correspondence between parents' and children's fears is presented in an interesting study by Hagman [17]. A thorough program of prevention would require that the parent should either overcome his own fears or develop ways of inhibiting or counteracting his signs of fear in the child's presence.

Apart from the influences that pass by words or signs from persons about him, there are the influences that the child encounters in books, motion pictures, and radio programs of his own choice. In reporting their own fears, children of school age often named specific events or characters that they had encountered through these agencies. The use of fear-inspiring materials in books, radio programs, and moving pictures designed for children might, no doubt, be controlled to some degree by rigid cen-

*A case in point is that of a child, aged three years and six months, who was subject to occasional nightmares. He lived in a home where Russian was spoken, and learned the Russian word for nightmares. One day, in the spring of the year, his mother remarked that it soon would be time for mosquitoes to appear. The Russian word that she used sounded to the child like the word for nightmares; during the summer he showed marked fear of mosquitoes, and it was apparent from his remarks that he associated them with nightmares.

sorship. This procedure would, of course, protect certain individuals at the expense of many others who are able to enjoy such materials without suffering apparent ill effects. In the case of a child who is highly susceptible to suggestions of fear, the parent should take some responsibility in protecting the child from contact with programs, pictures, and stories that deal with fear-inspiring episodes.

To what extent the modern development of motion pictures and the radio is responsible for fears that might otherwise not occur in a child's life is somewhat difficult to tell. Such data as were reported by older persons among the adults who recalled fears from childhood indicate that fears of supernatural and imaginary creatures, and of kidnappers and other criminal characters, were quite common in the days before the radio and motion picture "thriller," just as they are common to-day.*

Again in the matter of shielding the child from possible fear stimulation in his contacts with pictures and reading materials it is hard to predict or control the flow of events. Two prominent instances of fear in the present study illustrate the manner in which fears may arise from unexpected quarters. One child's intense fear of animals in the dark originated in Sunday School, where she had received an illustrated story of Daniel in the lion's den. Another child was much frightened by a picture contained in a magazine that was dedicated to the sober purpose of informing parents how to rear their children.

Promotion of Skills. The cultivation of counteracting skills has been mentioned as one method used by children themselves in coping with their fears. The value of skills may be stressed even more when we consider the steps that adults might take to help the child to lower his susceptibility to many fears.

* Specific instances of nightmares and other expressions of fear that revolve upon scenes and episodes from radio and movie "thrillers" often appear in the data of the present study as well as studies that have dealt specifically with the effects of radio and motion picture programs. There is need for further study to determine the degree to which such reactions are due to the unusual susceptibility of the individual himself, to what degree they are associated with other symptoms of emotional instability, and to what extent they may be considered as an indictment of radio and cinema programs from the point of view of the normal child. It undoubtedly is true that the "movies" and the radio have sometimes supplied imagery for nightmares that otherwise would not have occurred.

Case studies presented in the main body of this investigation illustrate the importance of skills in relation to fear behavior. The child who has never learned to climb or to engage in rough and tumble games, who has been helped too much in caring for his own needs, who has not learned to manipulate objects in the house, to open doors, catch a ball, dodge a missile, or hold his own in tussles with other children, is likely to be insecure in many ways, and to be more susceptible to fear of the falls, fights, and hurts of everyday life.

Deficiency in ordinary motor skills—through over-protection and lack of discipline—may also render the child more susceptible to fear in his social contacts: if he cannot climb, throw, fight, and tumble, he cannot keep pace with his playmates, he feels insecure in his social relationships, and shies away from contacts with people. Again, his deficiency may be in the field of social skills, in manners and techniques of courtesy, and such a deficiency likewise may result in feelings of insecurity in social relationships and fear of joining freely in social intercourse. No doubt many of the apprehensions concerning failure, ridicule, and real or imagined personal inadequacies that are reported so frequently by adults when they describe their childhood fears are rooted in inadequate motor and social skills. In like manner, later fears of assuming responsibility are no doubt often rooted in inadequate homespun training. It is not unlikely, also, that a child may, by reason of his lack of skill in mundane matters, be more susceptible to fear of the dark and of imaginary dangers, although the data of the present study do not touch upon this point.

The data indicate that such ineptitudes may be exhibited by children who have no lack of ability but who are handicapped either by parental over-protection, or by lack of proper discipline in skills that the child may fail to develop on his own accord. The topic of cultivation of skills through social pressures that are brought to bear by a child's playmates will be treated in a later paragraph.

Forewarning. Other things being equal, events are likely to be more frightening if they occur suddenly without warning. In-

asmuch as this is true, it should be possible at times to prepare a child beforehand for the experience of meeting an event that might prove to be fear-provoking. One difficulty in this connection is the fact that it is hard to predict or anticipate what might cause the child to be afraid. Again, a forewarning may, under some circumstances, simply have the effect of suggesting danger where the child himself might see no reason for fear.

An instance of the marked failure of forewarning appears in the main division of this study. A father and mother were planning to take their child with them on a visit to a home in which lived a much-deformed cripple. Judging that the sight of this cripple might frighten the child, they took pains beforehand to discuss his appearance in the child's presence. The desired effects were not realized; at the sight of the deformed man, the child showed signs of terror; even after having been taken from the room the child continued to tremble and to cry. The expressions of fear continued until the visit was ended and the child had returned home.

Although a negative instance such as the above may be cited to show that mere academic information concerning a possibly fear-inspiring event may have little preventive value, it still holds true that forewarning will be useful in many cases. If parents are precipitate in informing the child, or show grave concern, or betray the fact that they expect the child to be afraid, their efforts are less likely, of course, to be successful than if they introduce the topic casually on several occasions.

Anticipating the Effects of Maturation. Earlier in this chapter we have observed the apparent effects of maturation upon a child's susceptibility to fear: he will not be afraid of strangers before he has attained sufficient mental maturity to discriminate between strangers and familiars; he is not likely to be afraid of the dark before he is mentally able to people it with imaginary dangers. This means, in other words, that a child may have contacts with an event while he is still apparently immune to fear of it. Theoretically, it should be possible, during this period of immunity, to encourage the child to become so accustomed to the situation that he will be unafraid when he is old enough to re-

spond to the situation as a thing to be feared. Undoubtedly this principle often works, without being noticed. In the case of the dark, for example, one may suppose that a child will be much more likely to grow afraid if he never has an opportunity to be alone in the dark before the age of two or three than if he is left in the dark during daily periods from the time he is born. Although this principle is recognized, it must still be remembered that it often fails to work. Many children who have had unlimited opportunities to be alone in the dark, or to meet strangers, or to hear about mysterious dangers while still too immature to be afraid, exhibit fears of these events in due time. No doubt when such fears do emerge there is a specific conditioning factor that is responsible, but the fact still remains that previous habituation has not protected the child against fear.

Methods of Helping the Child to Overcome Fear

The methods thus far described, with the exception of the policy of prompting the child to acquire a number of skills, are largely preventive rather than curative in character. The data reveal a number of methods that might be applied in helping the child to overcome or to mitigate a fear that already has been established.

Aiding the Child to Escape. One obvious procedure is to remove the concrete occasion for fear, for example, by getting rid of a fear-provoking dog or a vacuum cleaner, or by moving to another neighborhood to help the child avoid certain local objects or characters that he fears. This procedure consists, in effect, in helping the child to escape rather than to master his fear. In many instances, this policy will be of little avail. If the circumstance is one that will recur, no real service is done by helping the child to flee, for it simply means that he will have to cope with the problem at another time and place. On the other hand, there may be peculiar conditions that can best be met by helping the child to escape. Such conditions depend both upon the characteristics of the child and upon the characteristics of the feared event. If the feared event is quite beyond the child's powers because the child is too weak or because the circumstance is too

severe, nothing can be gained by exposing him to continued torture. Thus it might be advisable to find new quarters for a child whose physical condition is poor and who is constantly being frightened by a shrill whistle, or to protect a susceptible five-year-old from contacts with a neighborhood hag who delights in dispensing lurid tales and terrorizing threats, or to safeguard a child who is faced by hopeless odds in the form of older, bullying playmates.*

Verbal Explanation and Reassurance. According to their own accounts, the technique most frequently used by parents in dealing with a child's fear was to try to tell him that there actually was no danger and to explain the nature of the event that had produced fear. The data reveal many instances in which this procedure was used repeatedly in combating a recurring fear. Often, it appeared, mere academic reassurances and explanations had little effect, especially when opposed to stimuli such as a noise, or an active dog, from which the child involuntarily recoiled. If it appears that the child's fear is due to lack of understanding, or due to a misapprehension, explanations and reassurances may be effective—but only if they succeed in identifying the frightening event with events that normally do not scare the child. Thus, if a child who normally has no fear of static on the radio is frightened by a noise from the radio in the adjoining room, his fear is likely to abate when he is informed as to the source of the sound. On the other hand, if he is normally afraid of radio noises, an attempt to analyze the sound, or to convince him that there really is no danger, is less likely to be effective. On the same principle, a child may overcome his fear of a strange

* The matter of removing a fear-inspiring influence may at times be quite difficult. A case in point is that of a precocious three-year-old child. Through a complication of factors, the child was rather nervous and "high-strung." He developed severe attacks of night terror, accompanied by outcries, convulsive movements, and profuse perspiration. To arouse him from his trance, it was necessary to slap him smartly or to douse him with cold water. When he awaked, he cried and offered disconnected accounts of the "bogey" and the "sandman" that had terrorized his sleep. The parents discovered that the child's terrors were being fed by a neighboring playmate, a six-year-old boy, who devoted much of his time to telling gruesome tales. The circumstances were such that it was not feasible either to move to a new locality, or to silence the older child, or to try to prohibit contacts between the two children, even though these alternatives all seemed desirable to the parents.

person when his elders succeed in identifying this person with someone whom the child does not fear.*

Obviously, to be most effective, a practical demonstration should accompany the verbal explanations. A child may be afraid of banging radiators, for example. His parents may try to explain to him that the steam is responsible for the noise. If they can give a partial demonstration by showing him the noise produced by the lid of a steaming teakettle (provided he is not already afraid of this), their explanations are more likely to take effect.

Much that falls under the heading of verbal explanation and reassurance is most effective if it can be introduced in a casual way. Just as it is true that items that a child overhears in the casual conversation of those about him may stimulate his fears, so also it is true that counteracting suggestions may be effective if offered in a seemingly casual manner.

One factor that should be mentioned in this connection is the need that sometimes arises for counterbalancing the garbled or exaggerated impressions that a child receives from stories told by his playmates. One child may overhear his parents talking about a murder or kidnapping that is prominently mentioned in the daily press. He retails what he has heard to his playmates, often in an inaccurate version, so that these are exposed to the sensational story even though their own parents are careful not to discuss such matters in their presence. When a sensational story is rife and is talked about among children, it might be well for a child's parents to introduce the topic into their own ordinary conversation while the child is present; by their matter-of-fact and seemingly casual discussion they may be able to overcome some of the distorted impressions that the child has gathered from other sources.

Often, in the discussion of methods of overcoming emotional difficulties, it is assumed that a person will be able to cope with his trouble if once its origin and nature are fully revealed to him. To be sure, one might give many illustrations of fears that

* This discussion does not apply, of course, to situations in which a word of reassurance in itself removes the occasion for fear, as when a child who fears that he is going to be spanked is definitely informed that he will not be.

wane when the sufferer has obtained a reasonable explanation of the thing that frightens him. But the effectiveness of knowledge of this kind is often much over-rated. One may be well informed as to the origins of a fear, and intellectually convinced that it is groundless, and still remain mortally afraid. Knowledge of the origin and nature of a fear is not likely to be helpful unless such knowledge can be translated into action in the form of activities that demolish the thing that is feared, or provide an adequate defense against it, or provide techniques for making a frontal attack.

Analysis of the Cause. A separate word may be added concerning one feature of the method of verbal explanation and reassurance, namely the procedure of trying to probe the individual's past history for possible clues to forgotten origins of long-standing fears. In the literature on the neuroses one may often find cases that illustrate this procedure and purport to demonstrate its efficacy. Varying accounts are given of the nature of fears to which the method applies. The condition is sometimes described as one in which the effect of an experience remains while the concept is forgotten; or as one in which an individual represses conscious memories of the original trying episode but is unable to shake off the emotional residuum. The condition is also described as one in which an individual, through a species of subconscious gymnastics, transfers his fear from something that is repugnant to something less obnoxious to the psychic censor—as when a person who fears that punishment for a *sub rosa* sin will be visited upon him, but who finds the recollection of the *sub rosa* episode and its possible retribution uncongenial, transfers his fear from this setting to a fear of a detail associated with the incident, and is troubled, for example, with a fear of certain persons or places. The theory underlying the procedure is that it is important to unearth the original experience, to help the sufferer to grasp it clearly, so that he now may face the substance rather than the shadow and thus be enabled to battle directly with the underlying cause.

There undoubtedly are many instances in which this method applies. It is a mistake, however, to assume that all fears can

or must be dealt with in this manner. In a great many instances—one might perhaps say in practically all instances—a person is unable to recall all the factors that may have contributed to his fear. Quite apart from any assumptions regarding repression, the subconscious, and other concepts of this kind, it may be said that many fears arise through a combination of many factors which the sufferer may not be able to identify on the spot, and others arise through the cumulative effect of conditions that the individual may be unable to recall in detail. A person may, for example, be afraid of dogs, or water, without being able to give more than a sketchy and inadequate picture of all the factors that contributed to the fear. Yet it is possible to help him overcome such a fear without resorting to a prolonged inquiry into forgotten events.

Instructing the Child as to Specific Methods of Coping with Fear. Apart from the procedure of explaining the nature of the feared event, an adult can often instruct the child in ways of facing the thing that he fears. Thus a child who is afraid of the wind (after having been swept off his feet in a gale) can be shown how to brace himself against the wind, and he can be taught to prepare himself to meet the wind as he turns from the leeward to the windward side of the street. Again, a child who is afraid of a bullying peer can sometimes be instructed to fight back, or the child who is afraid of his dark bedroom can be instructed how to turn on the lights at will.

The Provisions of Opportunities for Gradual Habituation. One method that may be applied in some situations is to vary and graduate the fear situation in such a manner that a child may approach and master it by degrees. There are several ways in which this may be attempted.

One procedure is to reduce the intensity or magnitude of the fear stimulus to a point where the child seems unafraid and then to accustom him to meeting it on an increasingly intensified scale. Noises, heights, tactual shocks, sudden and unexpected movements, and even unfamiliar events and animals (in the latter case, if one could, for example, make use of a number of dogs, beginning with one that is very apathetic, and moving on toward

more active and aggressive creatures) often lend themselves to this technique. Again, the child who is afraid of staying alone in his bedroom when it is completely dark may perhaps be helped to "taper off" by having a light shine through the transom from the hall, and this light, in turn, may then be dimmed gradually. The child who is afraid to recite in the classroom may be encouraged to speak out loudly when reciting in unison with others and then the situation may be varied until he speaks alone.

A companion procedure is to help the child to become thoroughly acquainted with the feared event when the feature that frightens him most is temporarily absent. Thus, the child who is afraid of the vacuum cleaner when the motor is running might be taken for a ride on it when the motor is silent; the child who is afraid of the dog only when he is alone with it may be prompted to join his parent in playing with the animal; the youngster who is afraid of stumbling in the dark may be prompted to make a game of finding his way, blindfolded, in a lighted room while his elders are about; the child who is afraid that he may not know the right answer and is therefore inhibited in his recitations in school, may at first be asked questions that are quite easy for him and that require only a brief answer.

The foregoing items merely illustrate a few of the many situations that occur in daily life in which the child might be helped by stages to cope with something that he fears. None of the foregoing schemes is guaranteed to work, but the idea underlying them is good. Variations in procedure would have to be found to suit the peculiar demands of the individual child. One complication that often arises is the difficulty of discovering just what it is in a given situation that makes the child afraid.

The scheme here proposed will obviously be more likely to succeed if the child's fear is prompted by something concrete and tangible within the event itself, or by some definitely real or fancied shortcoming within the child himself. On the other hand, if the situation is not feared in its own right but as a representative of imaginary dangers, the road is not so clear. It is difficult, to say the least, to find a graded project through which a child may be led to do battle with a ghost. This no doubt

accounts largely for the fact that fears of certain imaginary dangers—such as fears of remote animals, of menaces that lurk in the dark, of supernatural creatures—so frequently persist into adult years. A thing that seems quite mundane, such as a fur coat, may be feared not as a physical object but as the abode of an airy and sinister genius. The child might not be able to give an intelligible account of what it is that he fears in the coat, even if he tried. However, even in the case of fears of rather intangible events of this sort, the principle of gradual habituation will often be effective. Many of the super-mundane things that a child fears are localized in tangible objects and situations, and if the child can be led to grow accustomed to these—such as the coat in the present illustration—his fear of the intangible element will often wane.

Promotion of Experience with Feared Stimulus through the Use of Counter-Stimuli. The most important aid in the overcoming of fear is development of skills and the provision of opportunities for active and successful encounters with the thing that is feared. Frequently the child may be lured into contact with a feared event by means of strong counter-stimuli. If a child has a strong fear of a dark cellar but an even stronger appetite for the apples stored there, he may find his way into the cellar often enough to lose his fear. A child who has become afraid of a certain person, a doctor, for example, may sometimes be attracted into friendly contacts through the lure of interesting objects or activities that this person offers. Sometimes a child's curiosity may be so aroused that it outweighs his fear. Again, it sometimes transpires in daily life that a child must choose a feared alternative as the lesser of two evils: he takes the short cut through a feared cow pasture in order to avoid a longer path.* If this is repeated and no harm ensues the fear is likely to wane.

* In an instructive account of methods of overcoming fear, Jones [25] describes the use of direct conditioning, i.e., the procedure of associating the feared object with an attractive object—as an effective method. Another procedure that she found to be effective was to provide opportunities for social imitation. These two were found to be more successful than five other methods that she tried, including verbal appeal, elimination through disuse, negative adaptation, “repression,” and “distraction.”

In a comment about unconditioning fears, Levy [32] notes that a child's fear

Promotion of Experience through Social Promptings. What is sometimes known as social facilitation comes under the heading of the use of counter-stimuli. The child often masters his fear of jumping over a brook, skating, climbing a ladder, riding a horse or a steer, diving into water, running to see a fire, riding a roller-coaster or a merry-go-round, in order not to be outdone by his fellows. Again, a child will often face many things that he fears in order not to lose the companionship of his playmates: either he must stay at home to play by himself or he must consent to follow his playmates up a steep cliff, or brave the dogs that may be met during a hike through the countryside. Again, social pressure, in the form of ridicule from his companions, may become so strong that he chooses feared activities as the lesser of two evils.

One of the greatest values that come to the child through the opportunity to join in variegated play with his peers is the incentive to cultivate a number of useful although commonplace skills. Often in adult years one may see a person who has not availed himself of this advantage as a child and who remains helpless and afraid in a number of situations: he is afraid to climb or to jump, he dares not pick up a live fish or toad, he is afraid of a Ferris wheel, he is helpless when confronted with a harmless horse or cow, he cannot join in any sports, he has not learned to take a chance in the face of even possible minor and essentially harmless physical accidents. Often such a person, through his motor incompetence, may become timid in his social contacts (since there are so many situations in which he cannot join), and show his underlying fear either by withdrawing from his fellows or by assuming a disdainful front of intellectual superiority. The parent who gives his child an opportunity to join

of a certain object may spread to the attractive object that is associated with it—thus, when an attempt is made to overcome a child's fear of a cat by associating it with a toy, the child may grow afraid of the toy. But Levy reports that this secondary fear is relatively weak and may be overcome by presenting it together with other pleasant stimuli. When this is done, he reports, it is sometimes noted that the primary conditioned fear is also eliminated. According to observations in the present study, the mere fact of associating a feared stimulus in time and space with an attractive stimulus does not appear to suffice in many instances. The association is effective mainly if the attractive stimulus serves to bring the child into active contact with or participation in the event that he fears.

in the varied activities of children's outdoor and indoor play—even though these activities may sometimes be a bit rough, even though the child may sometimes be led into taking somewhat precarious chances, and even though he may at times become involved in none-too-dainty fights—is helping his child to acquire an immunity to countless timidities that often are an incumbrance in adult years.

In the home circle, social facilitation often may take the form of setting an example of fearlessness. More important even than this is the policy to avoid setting an example of fear. Very often younger as well as older children become afraid of things that did not frighten them until they have been impressed by the signs of fear exhibited by others. The expressions of fear in others that affect a child may often be quite subtle; in like manner, there is often room for subtlety in conveying an impression of fearlessness.

Indirect Therapy. In most of the foregoing discussion we have considered various methods by means of which the child can be helped to acquire the contacts, skills, and information that will aid him in coping with his fears. In stressing more or less direct methods of dealing with specific fears one should not, however, lose sight of other possibilities. Anything that bolsters the child's ability and his confidence in himself may aid him, even though such improvements are wrought through channels unrelated to his specific fears. Often the basis for the child's fear is hard to detect; often the premise on which his fear is based, according to his own report, actually is spurious or absurd. A child may shy away from social contacts not by reason of lack of appropriate skill in dealing with other people but by reason of feelings of guilt, or a conviction that he is ugly to look at, or that his voice has an unpleasant and irremediable quality. Often the child who actually is quite competent, who has no lack of basic information and skill, may be inhibited by erroneous feelings of inadequacy. A very bright child may sometimes censor and disparage himself beyond reason; again, a child who is basically competent may be uneven in his abilities and gauge his personal worth in terms of his weakest points. In like manner, a child who meets failure

or disparagement by reason of incompetence in some activities may acquire feelings of inadequacy that color his behavior as a whole. In such instances, it is often wise to attack the child's fears through roundabout rather than through direct methods. The child's self-confidence may be bolstered by giving him an opportunity to achieve success and to win praise in matters that are not obviously related to the field of his fears, and he may be encouraged to cultivate interests that eventually will bring him into successful contact with the thing that he fears. Such counter-stimuli are not proposed as a form of compensation or a salve to his vanity, but rather as an avenue that will enable the individual to tackle his fears through a side door.

The Detection of "Mild" Fears. If one had the eye of an omniscient being, fears of the character set forth in the present monograph would perhaps form only a small part of what one could see. One would no doubt observe a great many conditions that lie in the borderland between feelings of anxiety or fright and less dramatic experiences that may be labelled by such terms as feelings of doubt and insecurity, lack of self-confidence, vacillation in making decisions, and countless other reactions in which the individual withdraws or retreats or hesitates in the face of an issue. Whether such behavior should be called fear is beside the point; the important thing is that the individual shrinks and is inhibited. Innumerable illustrations of such behavior may be found in daily life. The customer is cowed by the sales clerk; the neophyte shies away from a bridge game, though he would greatly like to play; the automobile driver yields the right of way to others who are bolder; the poor but proud youth fears that he may make a mistake in etiquette when first he has an opportunity to attend a fashionable dinner. Often such reactions are transient and are overcome with experience. Often, however, such mild fears may persist and have major effects. An able research worker, fearing that his first scientific paper might be criticized for errors that he can not detect, may vacillate in going into print and continue to do so while his data and manuscripts accumulate from year to year. An affable youth who is a beginner in dancing may shrink from the possibility of a clumsy step and so absent

himself from social gatherings that might prove both enjoyable and profitable.

In the fears recalled from childhood by adults there is an illustration of a reaction of this sort that ultimately, according to the person who reports it, had a decided influence in later life. It is the case of a child who was a bit clumsy in the use of his hands when first he went to school; his penmanship was poor and his drawing was worse. In the drawing class, his efforts received no notice, while the drawings of other children were praised. He grew convinced that he could not draw; rather than exhibit something that might be censored or laughed at, he tried to absent himself from school on days when the drawing class met, and, if present, he tried to stall and to avoid the work. The teacher, it seems, also became resigned to the fact that the child could not draw. Throughout the grades and high school years the child shied away from opportunities to receive practice and training that might bring at least a little improvement of his poor skill in drawing. When he entered college, his deficiency became very real. He began a pre-medical course. In the subject of zoölogy he led the class in written examinations covering factual material; in the laboratory, on the other hand, he received failing marks by reason of his inability to sketch the things that were studied there. Even at this stage it is possible that a bit of encouragement from others or a little less resignation on his own part might have helped him to acquire sufficient skill to get along, for he had no aversion to hard work. But this disability turned him to other vocational interests, to his later regret. If this account may be taken at face value, it shows that the scales of this person's choice of a vocation in college years were tipped by a shrinking attitude toward a seemingly minor subject in early school years.

There no doubt are many such small acorns of withdrawal in childhood that grow to the size of oaks in their ultimate effects. To be sure, it would be impossible for parents or teachers to detect all such reactions, or to judge which of them will be overcome by the child himself without aid, and which are likely to have a lasting influence. Much behavior of the sort here under

discussion does not represent itself as fear either to the child or to his tutors; but whether it be approached from the point of view of an investigation of fear or a study of such matters as dislikes, interests, and attitudes, it presents an important area of research in the field of child guidance.

From the point of view of the riddance of such withdrawing reactions, the practical procedure is to use the best available methods to promote the child's skill in dealing with the projects from which he withdraws and to find ways by means of which he may grow accustomed to facing the issue that he fears.

Appendix

FORMS USED IN PART I OF THIS STUDY

FORM USED BY PARENTS IN RECORDING FEARS

Name of Child Time When Observation Began.....

Name of Observer Time When Observation Ended

Date When Recorded:

(1) At time of observation?.....

(2) How long afterward?.....

If no fear occurs, simply indicate with a check mark here..... Use a new blank to describe each fear and a new blank for each period of observation, even when no fear occurred. Use back of sheet if more space is needed.

If during the day any of these or other conditions occurred outside of the child's regular routine, please underline or specify: Child taken visiting, shopping, riding in automobile, to doctor or dentist, etc. Child came in contact with strange children, adults, or animals inside or outside of home. Child missed usual daytime nap, had less than usual amount of sleep last night, had meals at irregular hours, etc.

Underline or specify as to physical condition: normal, lack of appetite, slight cold, heavy cold, fever, digestive upset, other unusual physical conditions:

Situation in which child gave signs of being afraid

(Place, time, what child was doing at time, persons present, apparent cause of fear, etc.)

Behavior of Child (words spoken, cries, other vocalizations, jumping, starting, withdrawing, running away, and other physical activity, etc.)

FORM USED IN REPORTING OCCASIONAL FEARS

Following Behavior: Does child show any continued avoidance or uneasiness, or other unaccustomed behavior toward anything connected with situation in which fear arose?

Has this fear occurred before? If so how frequently?

Child's (approximate or exact) age Name of observer:
when fear occurred

Child's sex How long ago did the fear situation occur?

Situation which apparently caused fear:

Behavior of the child in the fear situation (crying, withdrawing, etc.).

Comments with regard to such factors as apparent origin of fear:

Frequency of occurrence as compared with other fears:

Effect on later behavior:

Relationship to other characteristics of the child, etc.:

(Use other side if more space is needed)

DIRECTIONS FOR RECORDING FEARS

1. Please record each fear that occurs during the day. Use a new blank for each fear. If no fear occurs during an entire day, indicate this on a separate dated blank. It is important to have a record of periods during which no fear takes place, as well as of each fear that is observed, and to have a record of the amount of time the child was being observed.
2. As far as possible, keep a record of the amount of time during the day when the child was under observation. By "observation," in this case is meant any period during which you are in a position to know what the child is doing and to notice and record a fear reaction if one should occur, even though you are not exclusively occupied in watching the child. If you are with your child at broken intervals during the day, please use a new blank for each period whether or not a fear was observed.
3. If a fear should occur at a time when you are not in a position to record it at once please describe it as soon as an opportunity comes. Indicate, as accurately as possible, when the fear took place and when it was recorded.
4. The record blanks may be filled out by any adult who happens to witness a fear situation at any time. If any member of the family has observed a fear reaction during the day, please try to get an account of it, and indicate whether it is recorded second-hand or by the observer himself.
5. The parents of each child are asked to keep records each day for three weeks. If a day goes by without an opportunity for recording the time can be extended until records have been kept for a total of twenty-one days.

Please be sure to check the questionnaire at the top of the blank each day and to date each record.

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